EXAMINING THE INTERACTIVE EFFECTS OF ATTACHMENT STYLE AND

RELATIONSHIP NOSTALGIA ON RELATIONSHIP QUALITY

by

JULIE ANN SWETS

Bachelor of Arts, 2018
Southwestern University
Georgetown, Texas

Master of Science, 2020
Texas Christian University
Fort Worth, Texas

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**Examining the Interactive Effects of Attachment Style and Relationship Nostalgia on Relationship Quality**

Nostalgia, "a sentimental longing for the past," is an ambivalent emotion that typically results in positive experiences for persons (e.g., Wildschut et al., 2006). A key characteristic about nostalgia is its sociality, as it motivates people to help others and pursue relationships, making individuals feel more socially connected (see e.g., Sedikides & Wildschut, 2020, for a review). Some previous work (e.g., Evans et al., 2022; Swets et al., 2022c; Swets, et al., 2022b) has found that *relationship* nostalgia, sentimental memories specifically about a romantic relationship's past, is beneficial for couples (e.g., higher satisfaction, commitment). Important to note, though, is that persons with a more avoidant attachment orientation tend to have fewer positive reactions to personally nostalgic memories (e.g., Abeyta et al., 2019). However, no studies have determined the effect of attachment style on *relationship* nostalgia. The current research aims to examine the effects of attachment style and relationship nostalgia on romantic partnership quality across three experiments and two nostalgia inductions: a writing prime (Study 1) and music (Studies 2-3). Moreover, little is known about the qualitative emotional experience of listening to relationship nostalgic music. Studies 2-3 aimed to provide more information about this experience and explore the impact of listening to nostalgic songs alone versus with a romantic partner.

**Nostalgia**

The notion of nostalgia has had an ambiguous history: It was initially seen as a neurological disorder in the 17th and 18th centuries, and a psychological detriment until the 19th century, as persons who exhibited symptoms of depression, melancholia, and physical ailments were often diagnosed as "nostalgic" (Batcho, 1998, 2013). Contemporary research, however, has

demonstrated that nostalgia, now often defined as "a sentimental longing for the past," is a commonly experienced and typically positive – albeit complicated – emotion (Wildschut et al., 2006). Between 15-16% of people have reported experiencing nostalgia daily, and approximately half (45%) experience it multiple times per week (Hepper et al., 2021; Wildschut et al.). It is conceptualized similarly around the world and across languages, including the central features of *memory/remembering*, *emotions*, *personal meaning*, and *social relationships* that emerge across 18 countries (Hepper et al., 2014). The content of nostalgic memories is also consistent. Wildschut et al. showed that persons (e.g., family members, friends, romantic partners) are the most common object of nostalgic narratives, followed by momentous events (e.g., weddings, graduations). Moreover, the self is usually quite salient and appears most frequently in a major role, compared to being a sole actor, minor role, or outside observer.

The experience of nostalgia is generally acknowledged to be emotionally ambivalent or *bittersweet*, as it entails feelings of irretrievable loss, change, homesickness, and regret, even though the positive emotions, such as pleasantness, happiness, redemption, and gratitude, tend to outweigh the negativity (Leunissen et al., 2021; van Tilburg, Bruder, et al., 2019; Wildschut et al., 2006). Nostalgia also overlaps with other similar cognitive processes, such as autobiographical recall, rumination, and counterfactual thinking; however, it is regarded as conceptually distinct because of its complex emotional nature and the special psychological, social, and existential benefits it confers (Cheung et al., 2018; Routledge et al., 2013). For example, participants asked to think of a memory that entails "rose-tinted memories" and "reflecting on keepsakes" (i.e., nostalgia) have reported more positive affect, social connectedness, and optimism compared to persons thinking of an event and "analyzing it, trying to understand why it happened" (reflection condition) and those who "wished things had gone

better" (brooding condition). Thinking nostalgically also significantly reduced boredom and increased intimacy maintenance compared to the other conditions (Jiang et al., 2021).

Nostalgia is generally identified as an advantageous experience for psychological well-being across a variety of domains (Sedikides & Wildschut, 2018; Wildschut et al., 2006). The benefits of sentimental past reflection can be assessed on a trait level, as persons who more regularly feel nostalgic also report higher well-being. For instance, more nostalgic persons report increased self-esteem, are more optimistic (Cheung et al., 2013, 2016), report higher environmental mastery and positive relationships (Hepper et al., 2021), and feel greater meaning and purpose in their lives (Routledge et al., 2011). Activating a state of nostalgia (e.g., through a memory recall task, reading nostalgic song lyrics, or encountering nostalgic scents) has also been shown to enhance positive mood and well-being. For instance, numerous experiments have demonstrated that nostalgic inductions temporarily boost happiness, inspiration, youthfulness, perceived social support, and life meaning more effectively than do memories of ordinary or positive past events (Abeyta & Routledge, 2016; Leunissen et al., 2021; Sedikides & Wildschut; Zhou et al., 2008). Notably, these results occur over time and outside of the laboratory as well; for instance, Layous et al. (2021) found that a weekly instruction to reflect on a nostalgic event, compared to an ordinary event, boosted life satisfaction and positive mood after 3 weeks (and longer for those higher on dispositional nostalgia).

Importantly, nostalgia is particularly functional in building psychological health in response to potential threats or states of discomfort. For example, Wildschut et al. (2006) induced negative mood by instructing participants to read about a deadly tsunami. These persons then scored higher on state nostalgia scales compared to individuals who instead read a neutral or positive account. Nostalgia has also been found to appear in response to feelings of loneliness

(Zhou et al., 2008) and life transitions (e.g., changes in residence; Sedikides et al., 2015a). As nostalgic reverie emerges in reaction to aversive psychological states, it then functions to counteract the negativity to restore balance. Plenty of studies support this framework. For instance, a group of experiments showed that nostalgia after self-discontinuity threats (e.g., a disconnection between the past and present selves) can reintroduce a sense of self-continuity, which is important for well-being (Sedikides et al.). When participants are primed with loneliness, mortality reminders, meaninglessness, or the transience of life, persons in a condition with induced nostalgia, compared to control groups, consistently respond with more life meaning, comfort, and positivity (Hepper et al., 2021; Routledge et al., 2008; van Tilburg et al., 2013; Zhou et al.).

Nostalgia is functional because it makes people feel socially connected, helping them fulfill their basic belongingness needs (Baumeister & Leary, 1995). Research on the content of nostalgic memories shows that they are usually composed of times with important others, such as family, friends, and romantic partners (Wildschut et al., 2006). Reminiscing on these instances fulfills the basic human need to belong and feel connected to others (e.g., Baumeister & Leary; Maslow, 1954). Indeed, people in a state of nostalgia report higher social connectedness (van Tilburg, Sedikides, et al., 2019). Linguistic analysis of nostalgic narratives also complements these results. Compared to ordinary memories, nostalgic ones contain more words related to social interaction and companionship (e.g., Swets, Venus, et al., 2022), and a higher frequency of first-person plural pronouns (e.g., we, us), demonstrating a focus on social interactions (Wildschut et al., 2018). Nostalgic memories are thus quite social. As a result, they also promote social motivations and behavior. Research has found that people become more interested in participating in social events, pursuing relationship goals, and acting prosocially (e.g., donating

money, volunteering) when nostalgic thoughts are salient (Abeyta et al., 2015a; Zhou et al., 2012b). Individuals also feel more competent in their social abilities and optimistic about overcoming obstacles in their relationships (Abeyta et al.).

**Nostalgia and Romantic Relationships**

Given the social nature and benefits of nostalgia, some research has examined what happens when persons in romantic relationships reminisce on memories *specifically* from their past, known as relationship nostalgia. Beginning this line of work, Mallory and colleagues (2018) adapted an existing measure of general trait nostalgia (Batcho, 1995) to assess dispositional sentimentality for a relationship. Romantically involved persons reported how nostalgic they felt about certain aspects of their relationship's past, such as intimacy shared with their partner and learning new things about each other. Results showed that higher trait relationship nostalgia was positively associated with partner satisfaction. This initial evidence suggested that relationship nostalgia could benefit partnerships by increasing a sense of bonding and shared history with a significant other. This is consistent with research on relational savoring, a parallel construct that refers to focusing on and prolonging positive, sentimental details from past events shared with others (Borelli et al., 2014). For instance, relational savoring has been shown to help romantically involved persons respond to hypothetical relationship stressors with more positivity and partner satisfaction (Borelli et al., 2015).

Building on these correlational findings, Evans and colleagues (2022) explored causal outcomes of relationship nostalgia[1] through a collection of studies. In one experiment, participants were assigned to either a relationship nostalgia writing condition, in which they wrote about "a nostalgic experience with their current romantic partner," or a control writing

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[1] Evans et al. (2022) technically refer to their construct as *romantic nostalgia*, though it is essentially the same as relationship nostalgia.

condition, in which they wrote about an ordinary recent event with their partner. The nostalgia-primed participants reported higher relationship satisfaction and commitment. In another study, participants either listened to a song that made them feel nostalgic about their relationship or a control song unrelated to their relationship. Again, those in the nostalgia condition reported higher satisfaction and commitment, as well as increased feelings of love, optimism, and closeness, compared to the control condition. In a final study, a daily diary approach tracked instances of relationship nostalgia and partnership quality over 2 weeks. Results showed that feeling more nostalgic predicted better relationship outcomes (e.g., commitment) and a lower desire to terminate the relationship. Overall, these studies provide evidence for the immediate positive impact of a sentimental longing for a relationship's past.

Swets et al. (2022c) further explored how relationship nostalgia could function in response to threats to the partnership. In one study, participants completed trait measures of conflict in their romantic relationships, relationship nostalgia, and commitment to their partner (i.e., the intent to persist in the relationship). Results showed that at average or high levels of conflict, there was a positive association between nostalgia and commitment, such that persons more nostalgic for their relationship were also more committed to their partners. In two subsequent studies, instead of measuring it as a trait, relationship nostalgia was activated with a writing task, similar to Evans et al.'s (2022) prime ("Think of an event that you shared with your partner that you think about in a nostalgic way"). The results showed that when participants claimed above-average levels of partner conflict, those primed with relationship nostalgia (vs. two control writing conditions) reported stronger commitment to their partners. In one of these studies, structural equation modeling revealed that the heightened commitment stemming from relationship nostalgia predicted greater oneness (e.g., identity overlap) with a partner. Because

nostalgia functions in response to psychological imbalance, it was reasoned that the persons with more relationship conflict (trait or state) were the ones most affected by the restorative potential of nostalgia.

Finally, other research (Swets et al., 2022b) has suggested that even *reading* a relationship nostalgic memory written by one's romantic partner can assist partnerships. In this study, participants were assigned to write about a nostalgic memory involving their romantic relationship, a personally relevant nostalgic memory, or an ordinary event. Then, their romantic partners, naïve to the writing condition assignment, read their partner's narrative, typed their response to it, and answered questions about their own relationship competence. Results showed that the partners who read a relationship nostalgic memory reported higher state nostalgia compared to those in other conditions, which predicted greater perceived relationship competence among the readers. Additionally, linguistic coding on the readers' responses, performed by independent raters, showed that the partners who *read* a relationship nostalgic memory expressed greater sociality, companionship, and positive affect in their responses, compared to controls.

Although an increasing amount of research is being conducted to explore links between relationship nostalgia and partnership-benefiting outcomes, there is little knowledge about the moderating effects of individual differences in people's deep-rooted psychological and behavioral patterns in relationships. By incorporating attachment theory (Bowlby, 1969/1982) into the study of relationship nostalgia, we can uncover some of these important differences. The present studies were conducted to examine whether attachment style moderates the effects of relationship nostalgia on relationship benefiting outcomes.

**Attachment Theory**

According to attachment theory (Bowlby, 1969/1982), all persons possess an attachment behavioral system that develops in infancy and functions throughout adulthood. During infancy, this attachment system is activated when there is a need to be met (e.g., hunger), and strategies are engaged to seek need fulfillment from initial caretakers (e.g., parents), otherwise known as attachment figures. Over time, children create mental representations of attachment figures and learn whether they are available and responsive to their needs. Into adolescence and adulthood, as attachment figures shift in focus from parents to friends and romantic partners, persons apply to these partnerships their already-learned mental representations and scripts about themselves, others, and relationships. As several theorists argue (see e.g., Mikulincer & Shaver, 2016 for a review), attachment figures form a hierarchical network in which the primary ones are those with whom the individual maintains strong, long-term affectional bonds (e.g., parents, spouse, close friends).

Although Bowlby (1982/1969) believed that people are born with a predisposition to develop an attachment behavioral system, he recognized individual differences in the way people evaluate attachment figures and how they respond to threats in the environment Adults with representations of responsive, available attachment figures are said to have a more *secure* attachment orientation/style, and they can experience more positive emotions, communicate needs, and employ constructive regulatory strategies in face of distress. On the other hand, adults with attachment figure unavailability might employ hyperactivating strategies, in which they seek extreme proximity, attention, and support from their attachment figures – known as an *anxious* attachment style. Or, they might employ deactivating strategies, in which they downplay their needs, believing they are signs of vulnerability and weakness, and seek distance from an

attachment figure – known as an *avoidant* attachment style (see Mikulincer & Shaver, 2016 for a review).

In most research, adult attachment orientations are conceptualized and measured via two subscales that assess attachment anxiety and avoidance. Although they are measured separately, anxiety and avoidance are best thought of as co-existing in a two-dimensional space; to glean a thorough picture of an adult's attachment orientation, both dimensions should be measured (Fraley et al., 2000; 2015; Mikulincer & Shaver, 2016). Indeed, research suggests that people who score higher on one scale and lower on another behave differently than people who score higher on both scales, or more securely attached persons, who score lower on both dimensions (e.g., Park et al., 2019; Simpson & Rholes, 2002).

The extent to which persons are anxiously attached (i.e., see attachment figures as unresponsive and utilize hyperactivating strategies) and/or avoidantly attached (i.e., utilize deactivating strategies) has numerous consequences for their romantic relationships. Anxiously attached persons hold insecurities about their partner's stability *and* their own value as romantic partners (Griffin & Bartholomew, 1994; Karantzas et al., 2014). Their romantic relationships are characterized by high emotional dependence and reliance on their partners (Feeney & Noller, 1990) and high expectations for their partners to meet their needs (Kane et al., 2007). These anxious insecurities fuel the motivations to heighten levels of intimacy, minimize psychological distance between themselves and their partners, and constantly seek reassurance and security in their partnerships (Mikulincer, 1998; Mikulincer & Shaver, 2016; Shaver & Mikulincer, 2002). However, these objectives are often unsuccessful. Instead, anxiously attached persons often engage in excessive reassurance seeking from their partners, become more attuned to and distressed by (potential) threats to their relationships (e.g., violations of trust), and ruminate in

worry about potential problems, all of which can push their romantic partners even further away (Fraley & Shaver, 1998; Mikulincer, 1998; Shaver et al., 2005).

More avoidantly attached persons, like the anxiously attached, also hold negative models of themselves and of others (Griffin & Bartholomew, 1994). Their relationships are characterized by more distrust of and distance from others, higher levels of autonomy and independence, and lower levels of interdependence and intimacy (Feeney & Noller, 1990; Mikulincer & Shaver, 2016; Simpson, 1990; Ren et al., 2017). Avoidantly attached persons are deeply averse to commitment and dependency (Birnie et al., 2009), viewing partner intimacy as a threat to their independence and vulnerability as an indication of weakness. Generally, avoidantly attached persons prefer emotional distance and autonomy over disclosure and relying on social bonds for support (e.g., Overall & Sibley, 2009; Mikulincer & Shaver). During times of stress, the more avoidantly attached exhibit withdrawal strategies (e.g., pulling away, avoiding eye contact with their partner, distancing themselves; Fraley & Shaver, 1998) and indirect support seeking strategies, such as hinting that they are in distress or complaining about a situation, but not directly disclosing the problem (Collins & Feeney, 2000; Mikulincer, 1998). However, it is not that avoidantly attached persons are free from psychological needs to connect and belong. Instead, theory and research suggest that their attachment systems do become activated but are immediately, perhaps preconsciously, suppressed, due to their history with attachment figure unavailability (Shaver & Mikulincer, 2002).

Given all these characteristics, it is not surprising that relationships of avoidant and anxious persons are of overall worse quality, relative to the more securely attached. As attachment insecurity increases, relationships become less trusting, intimate, satisfying, and committed (Mikulincer, 1998; Mikulincer & Shaver, 2016). When in relationships, avoidant and

anxious persons also use more destructive conflict management styles (Mikulincer & Shaver) and are more likely to participate in infidelity (DeWall et al., 2011; Russell et al., 2013). Ultimately, due to these problems, insecurely attached persons' relationships end more quickly (Feeney & Noller, 1990). This is all the inverse pattern of relatively securely attached persons, who hold more positive, optimistic views when facing stressors, seek an appropriate balance of social support from their partners, utilize more constructive methods of conflict resolution, and enjoy more satisfying, intimate, and committed relationships (Mikulincer & Shaver; Shaver & Mikulincer, 2002). Unfortunately, more insecurely attached persons' representations of others as unresponsive and unfulfilling to their needs have destructive consequences to relationships overall, especially when it comes to building and strengthening bonds with close others.

**Attachment Style, Close Relationships, and Nostalgia**

Although much of the exploration into nostalgia finds support for its positive consequences, integrating attachment theory to this research reveals that the emotion is not equally beneficial for everyone. For instance, more avoidantly attached persons' nostalgic narratives tend to contain less social and attachment-related content (e.g., feeling loved by other people) and more agency-related content (e.g., personal success, competence; Abeyta et al., 2015b). Also, attachment avoidance affects well-being outcomes that are typically increased by nostalgic thoughts. Research using nostalgia writing primes has shown that they boost perceived social competence (Wildschut et al., 2010) and the desire for closer relationships (Abeyta et al., 2019), but the opposite pattern is found when people are avoidantly attached. These findings extend to romantic relationships too. Juhl et al. (2012) found that a nostalgia prime increased relationship satisfaction (among the romantically involved) and the desire to pursue a romantic relationship (among single persons), but only as attachment avoidance decreased. That is, only

for less avoidant people, nostalgia increased positive thoughts about romantic relationships (current or potential). There is even evidence suggesting that when people are dissatisfied with their current relationship, they are more likely to feel nostalgic for past sexual partners – *unless* they are more avoidantly attached (Muise et al., 2020). In sum, this collection of research demonstrates that avoidant attachment can reverse the typically positive outcomes of nostalgia.

What is less known, however, is the relative importance of attachment anxiety. Some research examining attachment orientations' interactions with nostalgia has neglected to include attachment anxiety measures altogether (or at least report on them; Abeyta et al., 2019). In other work, researchers have measured attachment anxiety as well as avoidance but found no significant results (Juhl et al., 2012; Wildschut et al., 2010). Even when attachment anxiety is included and analyzed, it is often measured in separate analyses from avoidance, even though attachment style is best conceptualized as a two-dimensional construct that necessitates both anxious and avoidant dimensions measured on separate but interacting continua (particularly true for romantic relationships; e.g., Fraley et al., 2015; Mikulincer & Shaver, 2016; Shaver & Mikulincer, 2002). Because of all this, our knowledge about how attachment anxiety modulates responses to nostalgia is quite limited.

We do have some information suggesting that attachment anxiety is worth considering. For instance, Muise et al. (2020) found that attachment anxiety predicted higher nostalgia for past sexual experiences. Another study (Swets & Cox, 2022) examined attachment anxiety and avoidance in studying reactions to expressions of relationship nostalgia. In this study, participants were asked how much they *would like* their romantic partners to demonstrate nostalgia to them (e.g., spend quality time with you like in the early parts of your relationship, play songs you used to listen to together). Results showed that as attachment avoidance

increased, participants reported a lower liking for relationship nostalgia from their partners. In a subsequent study, it was found that a reduced liking for relationship nostalgia stemming from attachment avoidance predicted lower partner commitment and even higher intentions toward infidelity. On the contrary, attachment anxiety predicted a higher preference for relationship nostalgia. These findings are consistent with attachment theory predictions, given that persons with a more avoidant attachment style tend to feel negatively impacted by perceived threats to their independence (Overall & Sibley, 2009), and tend to favor autonomy over intimacy and interdependence in their relationships (Mikulincer & Shaver, 2016; Ren et al., 2017). Anxiously attached people, in turn, tend to strongly desire intimacy and closeness in relationships (Mikulincer & Shaver). Overall, however, more research is needed that includes both attachment dimensions to understand how the uniqueness of their interaction affects nostalgia outcomes, including responses to relationship-specific nostalgic memories.

## The Current Research

Ample research has demonstrated the positive outcomes of experiencing nostalgic reverie, and growing evidence shows its benefits for romantic partnerships. Furthermore, we know that avoidantly attached persons tend to experience more negative outcomes from nostalgia (e.g., Juhl et al., 2012). It follows, then, that attachment insecurity (mostly, avoidance) would also moderate the consequences of *relationship-specific* nostalgia; however, no research has explicitly tested this question. Therefore, the first aim of these three studies was to examine how attachment style interacted with relationship nostalgia primes to affect relationship quality outcomes (e.g., relationship satisfaction, commitment, oneness). This was tested with two different types of relationship nostalgia inductions (a writing prime in Study 1; music in Studies 2-3). I expected that, if nostalgia increases perceived romantic partnership quality, these results

would be specific to those *low* on attachment avoidance, a trait that tends to deter persons from benefitting from nostalgia. I had less specific hypotheses regarding attachment anxiety, given the lack of previous findings – it could be that people higher on attachment anxiety could benefit from relationship nostalgia due to their preference for closeness *and* for demonstrations of relationship nostalgia from partners (Swets & Cox, 2022). On the other hand, they could also experience relationship detriments, as their commitment and satisfaction levels are typically lower than securely attached partnerships (Mikulincer & Shaver, 2016).

Second, research shows that music elicits *personal* nostalgia and consequent well-being benefits (e.g., positive mood, optimism, social connectedness, life meaning) that mirror the outcomes of nostalgia writing primes (e.g., Cheung et al., 2013; Michels-Ratliff & Ennis, 2016; Routledge et al., 2011). Again, however, it is unclear how people's attachment styles might affect their reactions to these songs. Despite music being a social, emotionally regulating tool (e.g., Groarke & Hogan, 2016), there is little research connecting the music listening experience to attachment styles, although it makes sense that there might be attachment-related differences. For example, a common reason people report listening to music is to keep them company when they feel lonely and to reminisce (Schäfer & Eerola, 2020), which could be a manifestation of the attachment behavioral system. There is even more reason to think that attachment style would moderate people's responses to *relationship-specific* nostalgic music, given its relational and emotional qualities.

To examine this question about music and attachment styles, the method for Study 2 included the following steps: First, participants completed an attachment style questionnaire and then were randomly assigned to a relationship nostalgia songs condition or a control condition. In the nostalgia condition, participants listed three songs that made them feel nostalgic for their

relationship. In the control condition, a list of 10 popular songs was provided, and participants were asked to report how much they liked and were familiar with each. Spotify, an internet music-streaming application (www.spotify.com), was used to create playlists with the participants' provided songs (in the nostalgia condition) or the top three most-liked songs (in the control condition). Participants listened to the songs on their playlist and reported how they felt about each (e.g., positive & negative affect). Open-ended responses to each song were also analyzed for linguistic trends in emotion. Finally, all participants completed measures of relationship quality (e.g., satisfaction, commitment). Listening to songs reminiscent about one's romantic relationship, compared to positive, popular songs, was expected to boost relationship quality among the less avoidantly attached.

Moreover, the qualitative experience of listening to relationship nostalgic songs – *why* they are nostalgic to people, what it *feels like* to listen to them, etc. – is underexplored. Nostalgia is a complex emotion with idiosyncratic associations to important memories, but often, the details of these memories are discounted in favor of quantitative self-report outcome measures. The limited existing work on relationship nostalgic music has found that listening to these songs increases relationship satisfaction, commitment, and closeness (Evans et al., 2022), but the specific memories associated with the songs and how they fit into the couple's relationship trajectories are important factors, too. Therefore, I aimed to explore the affective components associated with relationship nostalgic music, which was used as a manipulation in Studies 2 and 3. Specifically, I wanted to know what aspects of their relationships were associated with the nostalgic songs they provided. I also analyzed their responses to listening to the songs, which were obtained via typed text in Study 2 and via verbal discussions in Study 3. With these, I

wanted to test whether these nostalgic songs were evoking more positive emotion and relationship references than other control songs were.

The third main aim of this research was accomplished in Study 3, which tested the effect of listening to relationship nostalgic songs together *with a romantic partner*. Previous work has found that emotional reactions to music are more intense and more positive when listening with a close other than when listening alone (Liljeström et al., 2013). Also, some research suggests that asynchronously sharing relationship-relevant nostalgic memories between partners is positive (e.g., Swets et al., 2022b). However, no research has yet examined the *simultaneous* sharing of nostalgic feelings in real time. Therefore, in Study 3, I aimed to explore whether listening to relationship nostalgic songs with a partner would confer extra benefits compared to listening in solitude. The method of Study 3 followed the same general method as Study 2, except for in Part 2, participants were assigned to one of three conditions: listening to their nostalgic songs alone, listening to their nostalgic songs with their partner, or listening to their control songs (i.e., most liked and familiar) with their partner.

I anticipated that the nostalgia-together condition would elicit the most positive responses in Study 3. Research on interpersonal emotion transfer (IET; Parkinson, 2011) effects suggests that emotions are often "shared" between people who are in direct contact with each other via detecting and mimicking each other's facial expressions and tones of voice. Research also shows that emotional reactions to music can be more intense when listening with a close other versus listening alone (Liljeström et al., 2013). Listening to music together also can promote group cohesion, which has its own positive effects on well-being (Boer & Abubakar, 2014). Therefore, I expected that nostalgia and any consequential positive emotions would be highest after listening to sentimental songs together. However, it was less clear how the control-together

condition would compare to the nostalgia-alone condition. On one hand, couples who listen to even non-nostalgic songs together might feel better about their relationship quality than do individuals who listen to music alone, but it also seems that the emotions evoked in the nostalgia-alone condition could boost relationship quality more than the less sentimental emotions that might emerge in the control-together condition. I had no specific hypothesis for this comparison.

Overall, across three studies, I sought to determine whether attachment avoidance and/or anxiety lessened or even reversed the effect of relationship nostalgic thoughts on relationship quality metrics (commitment, etc.). I tested this question using two different methods: a writing prime and music listening to induce nostalgia. I also investigated the qualitative experience of nostalgic music. Finally, I aimed to evaluate the impact of a romantic partner's presence on the experience of listening to nostalgic music.

**Study 1**

Although work has demonstrated the importance of considering attachment style when measuring nostalgia (e.g., Juhl et al., 2012; Muise et al., 2020), no research has explored how attachment style affects people's responses to relationship nostalgia. To address this question, in the current work, participants completed a measure of attachment style, and then they were primed with either nostalgia or a control topic; relationship quality measures (e.g., satisfaction, commitment, oneness) were completed after. Given that previous work (e.g., Swets et al., 2022c) has found that commitment (i.e., the intent to persist in a relationship along with felt psychological attachment and a long-term orientation toward the relationship; Arriaga & Agnew, 2001) is most affected by thoughts of relationship nostalgia, I was most interested in this outcome measure.

I anticipated that thoughts of relationship nostalgia would increase perceptions of relationship quality, but they would have the opposite effect for the more avoidantly attached; this hypothesis is based on prior findings that general nostalgia primes decrease social connectedness, social affiliation goals, and relationship satisfaction as attachment avoidance increases (Abeyta et al., 2019; Juhl et al., 2012; Wildschut et al., 2010). Moreover, most of the nostalgia work that has considered attachment style has been mostly limited to avoidant attachment, either by finding null results with attachment anxiety (e.g., Wildschut et al., Juhl et al.) or failing to measure it altogether (e.g., Abeyta et al.). However, attachment orientations are best interpreted as an interaction between avoidance and anxiety that exist together in a two-dimensional space (e.g., Mikulincer & Shaver, 2016). Given the explicitly romantic relationship focus of the current study, the relative paucity of information about anxious attachment and nostalgia, and the theoretical backing, it seemed important to consider both dimensions of attachment style and their interaction with nostalgia to cause differences in relationship quality. However, in part because of the lack of prior research, my hypothesis regarding how attachment anxiety would interplay with avoidance and nostalgia in this three-way interaction was ambivalent.

**Method**

**Participants**

Participants were recruited from Amazon's Mechanical Turk (MTurk), who received $1.00 payment each for their participation. The study was advertised as a project about "relationships and opinions on different topics." To participate, persons had to indicate being at least 18 years old, living in the United States, and being involved in a romantic relationship. I also limited participation to those with fewer than 500 tasks approved and an approval rate of at

least 95%. An *a priori* power analysis using *G\*Power* (Faul et al., 2009) indicated that to obtain significant small effects ($R^2$ = .02), with power at .80 ($p \leq .05$), approximately 395 participants were needed. After removing approximately 74 participants for not being in a committed romantic relationship ($n$ = 22)[2], failing an attention check ($n$ = 13), admitting to not paying careful attention during the study ($n$ = 4), or not following instructions during the writing task ($n$ = 35)[3], the final sample was 322 participants. A sensitivity power analysis (*G\*Power*; Faul et al.) suggested that with the given sample size, with power set at .80 ($p \leq .05$), the minimum effect size that would likely produce a statistically significant result for a three-way interaction was $R^2$ = .02. See Table 1 for demographic information.

**Procedure**

After providing informed consent, all participants completed a measure of attachment style (Fraley et al., 2000). Then, participants were randomly assigned to write about a relationship nostalgic event or a recent, ordinary (control) event (see below). Modeled after frequently used general nostalgia writing prompts from Wildschut et al. (2006), this relationship nostalgia writing prompt has been shown in past work to activate nostalgic thoughts about one's relationship (e.g., Swets et al., 2022c). After completing the writing task, all participants completed counterbalanced measures of satisfaction, commitment (Rusbult et al., 1998), and oneness (Cialdini et al., 1997). Finally, demographic information was provided, and participants were debriefed and paid.

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[2] I only included participants who reported being in a committed monogamous relationship, which is consistent with previous work investigating nostalgia and attachment style (see e.g., Borelli et al., 2015; Juhl et al., 2012; Mallory et al., 2018; Muise et al., 2020). Given that even casually dating someone seems to be a categorically different experience from seriously dating or being married to someone, especially among young people (James-Kangal & Whitton, 2019; Kamp Dush & Amato, 2005), I did not include "casual daters" in any analyses herein.

[3] In the control condition, I removed participants whose essays involved some sentimentality and/or past event associated with their partner or were completely off-topic from the prompt. In the nostalgia condition, I removed participants whose essays involved nostalgia for an ex-partner, were not emotional whatsoever, or were off-topic.

**Materials**

*Attachment*

Fraley et al.'s (2000) Experiences in Close Relationships – Revised (ECR-R) is a 36-item measure that assessed attachment orientations in close relationships. Responses were made on a 7-point Likert scale (1 = *strongly disagree*; 7 = *strongly agree*) with 18 items assessing attachment avoidance ("I prefer not to show a partner how I feel deep down") and 18 assessing anxiety ("I often worry that my partner will not want to stay with me"). Higher scores on the subscales indicate stronger avoidant and anxious attachment styles, respectively. Both subscales were reliable in this study (avoidance $\alpha = .94$; anxiety $\alpha = .91$).

*Nostalgia Writing Prompt*

Nostalgia is defined as "a sentimental longing for the past." Think of a past experience that has meaning for your romantic relationship that you think about in a nostalgic way. Specifically, try to think of a part of your relationship's past (e.g., an event or episode) that makes you feel nostalgic. Please bring this nostalgic experience to mind and think it through. Now, write about this experience in all its vivid detail, and be as thorough and descriptive as possible.

*Control Writing Prompt*

Think of an ordinary event in your daily life that took place in the last week. This should not be an emotionally charged event. Try to bring this event to mind, and think it through as though you were an observer of the event, rather than directly involved. Imagine the event as though you were a historian recording factual details. Please bring this experience to mind and think it through. Now, write a purely factual and detailed account.

### *Satisfaction*

Relationship satisfaction was measured with Rusbult et al.'s (1998) 7-item satisfaction subscale of the Investment Model Scale (IMS; e.g., "Our relationship makes me very happy"). The measure is a 9-point Likert scale (0 = *don't agree at all*; 8 = *agree completely*), with higher scores indicating higher satisfaction. The scale was reliable ($\alpha = .95$).

### *Commitment*

The commitment subscale of the IMS (Rusbult et al., 1998) includes seven items that measure the intent to persist in a relationship (e.g., "I want our relationship to last for a very long time"). The measure is a 9-point Likert scale (0 = *don't agree at all*; 8 = *agree completely*), with higher scores indicating greater commitment. The scale was reliable ($\alpha = .91$).

### *Oneness*

The single item "To what extent would you use the term 'WE' to characterize your relationship with your partner?" measured oneness on a scale from 1 (*not at all*) to 100 (*very much so*). Higher scores indicate more oneness or closeness with a partner (Cialdini et al., 1997).

**Table 1**
*Sample demographic characteristics (Study 1; N = 322)*

|  | Mean (SD) | Range |
|---|---|---|
| Age | 35.99 (10.13) | 18-74 |
| Relationship Duration (in months) | 119.26 (101.57) | 1-583 |
|  | *n* | *%* |
| Ethnicity |  |  |
| White/non-Hispanic | 238 | 73.9 |
| Hispanic/Latino(a) | 29 | 9.0 |
| Black/African American | 22 | 6.8 |
| Asian | 19 | 5.9 |
| Native Hawaiian/Pacific Islander | 3 | 0.9 |
| American Indian/Native American | 1 | 0.3 |
| Other | 10 | 3.1 |
| Relationship Status |  |  |
| Married | 198 | 61.3 |
| In a committed relationship | 81 | 25.1 |

| | | |
|---|---|---|
| In a domestic partnership | 24 | 7.4 |
| Engaged | 20 | 6.2 |
| Gender Identity | | |
| Female | 249 | 77.1 |
| Male | 71 | 22.0 |
| Nonbinary/other | 3 | 0.9 |
| Sexual Orientation | | |
| Heterosexual/straight | 265 | 82.0 |
| Bisexual | 30 | 9.3 |
| Lesbian | 12 | 3.7 |
| Gay | 5 | 1.5 |
| An identity not listed/no response | 11 | 3.4 |

## Data Analysis

Prior to conducting any analyses, assumption tests were conducted in SPSS Version 27. Shapiro-Wilk's tests were performed, and histograms were visually inspected to ensure that regression residuals were normally distributed ($ps \geq .05$). There were no differences on gender, age, relationship duration, race, or sexual orientation between conditions ($ps \geq .356$). Analyses were conducted using SPSS Version 27 and PROCESS Version 4.0 for SPSS (Hayes, 2022). For moderated regression analyses, continuous predictor variables (e.g., attachment) were centered, and categorical variables (i.e., condition) were dummy-coded. Significant and marginally significant interactions were followed up with simple slope analyses and regions of significance tests at low (-1$SD$), mean, and high (+1$SD$) levels of the continuous variables (Aiken & West, 1991). Moderated regressions were conducted with 5000 bootstrap iterations.

Independent samples $t$-tests showed there were no differences between the writing conditions on relationship status (married, etc.), duration, age, race, gender, or sexual orientation.

## Results

### Main Analyses

I first wanted to assess whether the relationship nostalgia prime on its own improved perceived satisfaction, commitment, and oneness. Independent samples $t$-tests (0 = nostalgia; 1 =

control) compared scores on each of these outcome measures. None of these results were statistically significant. See Table 2 for descriptive and inferential statistics.

To examine the interactive effect of attachment insecurity and the relationship nostalgia prime, I used PROCESS (Hayes, 2022) to conduct a three-way moderated regression with avoidance, anxiety, and condition predicting each relationship outcome, starting with commitment. Within this regression model, there was a significant main effect of attachment avoidance, such that as avoidance increased, commitment decreased. There was also a marginally significant main effect of attachment anxiety; as anxiety increased, commitment also increased. These effects were qualified by a three-way interaction between anxiety, avoidance, and condition ($R^2 = .02$). At mean and high levels of attachment anxiety, there were no significant links between attachment avoidance, condition, and commitment. However, at low anxiety, when avoidance was average or above average, commitment was higher in the control condition than in the nostalgia condition. This suggests that for people who are not anxious but are moderate to high on avoidance, thinking nostalgically about one's relationship can be harmful for commitment. See Table 3 and Figures 1-2 for inferential statistics[4].

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[4] I tested covariates within the three-way interactions between avoidance, anxiety, and condition. When predicting commitment, relationship duration, gender, and relationship status were not significant covariates. For satisfaction, only duration was a significant covariate ($p = .009$), and for oneness, only status was significant ($p = .001$). However, including these covariates does not change the pattern or significance of the overall interactions or the simple main effects; therefore, all results are discussed without covariates included in the models.

**Table 2**
*Descriptive and inferential statistics for conditional differences on relationship quality measures (Study 1)*

| | Mean (SD) | | | | |
| --- | --- | --- | --- | --- | --- |
| | Nostalgia (*n* = 166) | Control (*n* = 156) | *t* | *df* | *p* |
| Satisfaction | 6.32 (1.65) | 6.39 (1.67) | .39 | 320 | .700 |
| Commitment | 7.30 (1.37) | 7.25 (1.22) | .39 | 320 | .701 |
| Oneness | 87.33 (20.10) | 87.41 (18.03) | .04 | 320 | .971 |

**Table 3**
*Inferential statistics for moderated regression predicting commitment (Study 1)*

| | *b* | *SE* | *t* | *p* |
| --- | --- | --- | --- | --- |
| Avoidance | -.64 | .08 | 8.08 | ≤ .001 |
| Anxiety | .12 | .07 | 1.66 | .099 |
| Condition (0 = nostalgia; 1 = control) | .14 | .14 | 1.00 | .316 |
| Avoidance*Condition | .11 | .12 | .84 | .404 |
| Anxiety*Condition | -.16 | .11 | 1.51 | .132 |
| Avoidance*Anxiety | .12 | .06 | 1.93 | .054 |
| Avoidance*Anxiety*Condition | -.22 | .08 | 2.70 | .007 |
| Nostalgia vs. Control | | | | |
| Low Anx/Low Avoid | -.10 | .21 | .48 | .632 |
| Low Anx/Mean Avoid | .35 | .19 | 1.81 | .071 |
| Low Anx/High Avoid | .80 | .33 | 2.47 | .014 |
| Mean Anx/Low Avoid | .02 | .20 | .09 | .931 |
| Mean Anx/Mean Avoid | .14 | .14 | 1.00 | .316 |
| Mean Anx/High Avoid | .26 | .20 | 1.29 | .198 |
| High Anx/Low Avoid | .13 | .33 | .40 | .689 |
| High Anx/Mean Avoid | -.08 | .20 | .39 | .695 |
| High Anx/High Avoid | -.29 | .20 | 1.46 | .145 |

**Figure 1**

*Interaction between Attachment Avoidance and Anxiety on Commitment in the Nostalgia Condition (Study 1)*
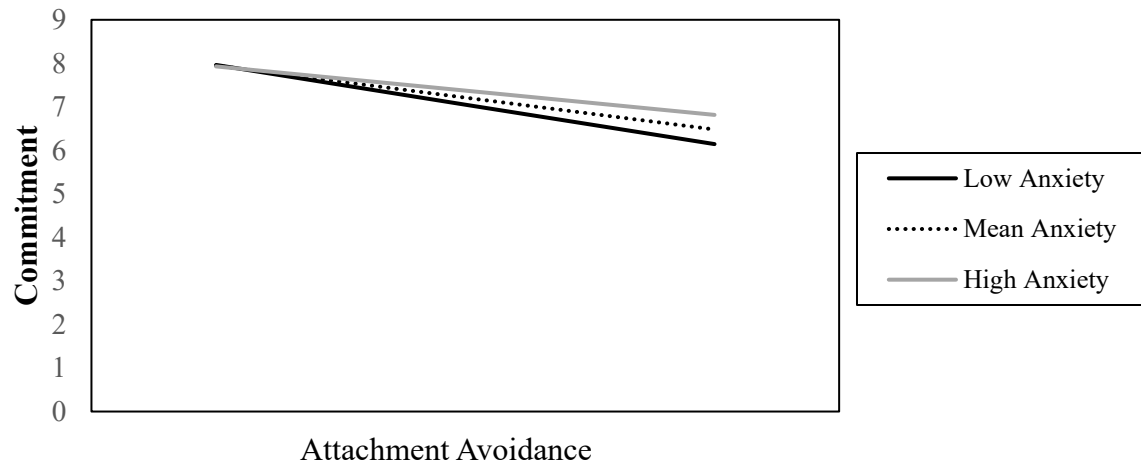


**Figure 2**

*Interaction between Attachment Avoidance and Anxiety on Commitment in the Control Condition (Study 1)*

**Figure 3**

*Interaction between Attachment Avoidance and Anxiety on Satisfaction in the Nostalgia Condition (Study 1)*



**Figure 4**

*Interaction between Attachment Avoidance and Anxiety on Satisfaction in the Control Condition (Study 1)*

**Figure 5**

*Interaction between Attachment Avoidance and Anxiety on Oneness in the Nostalgia
Condition (Study 1)*



**Figure 6**

*Interaction between Attachment Avoidance and Anxiety on Oneness in the Control
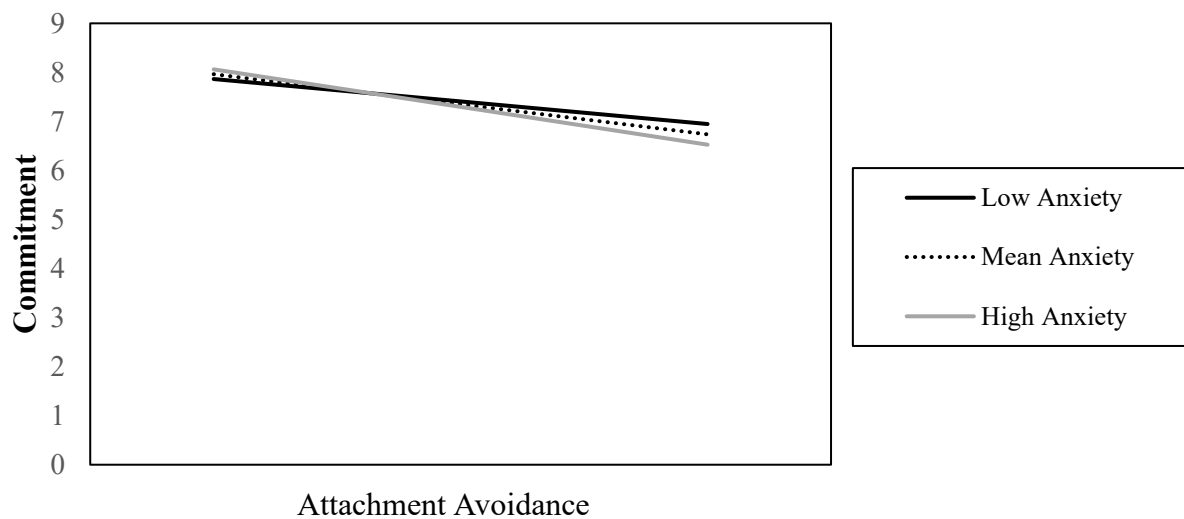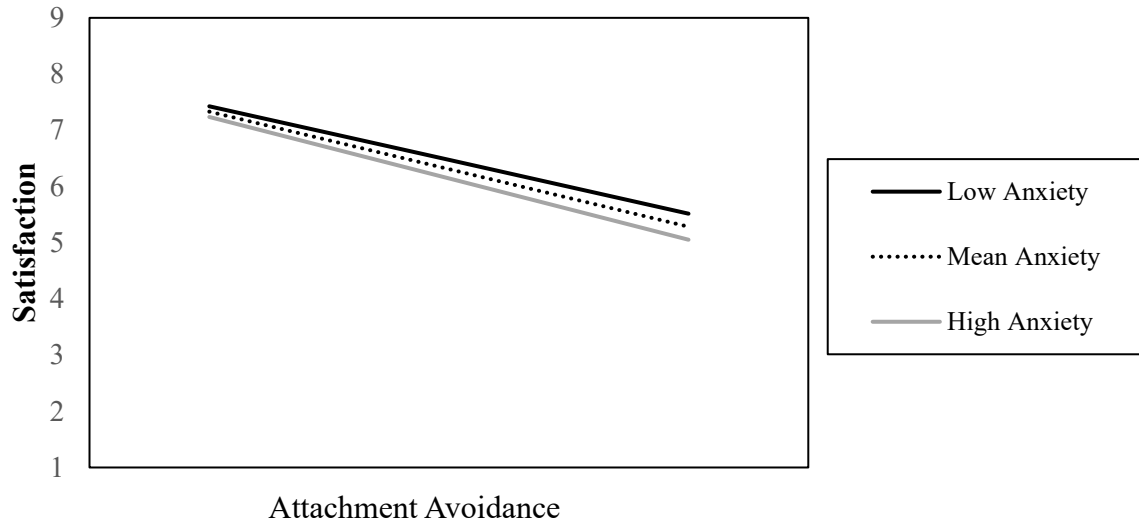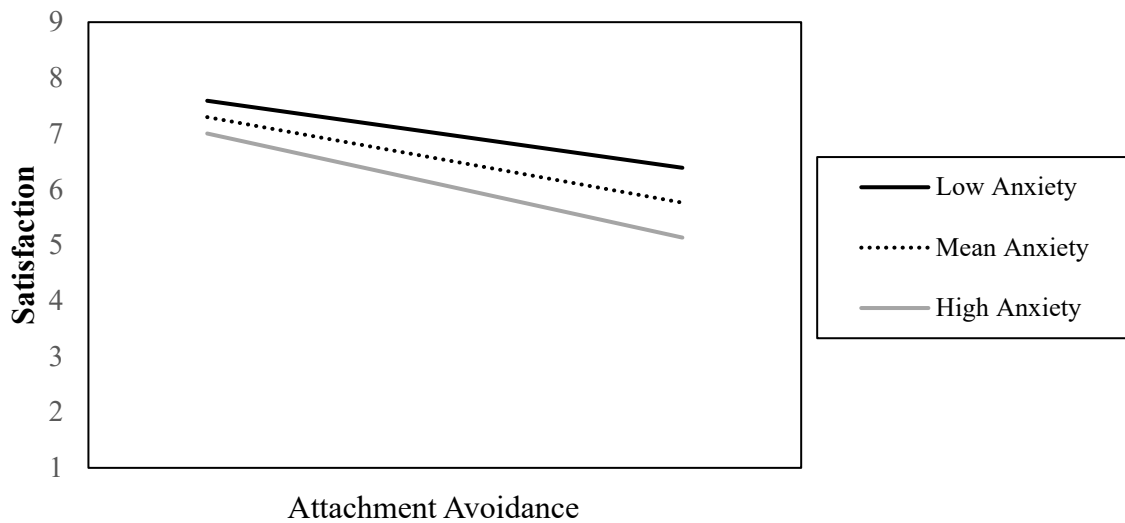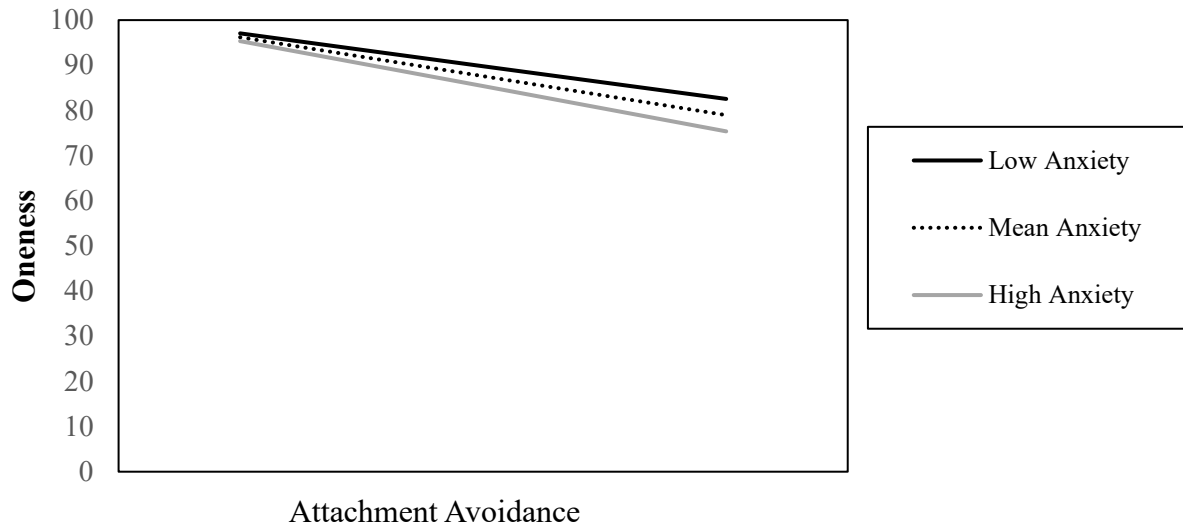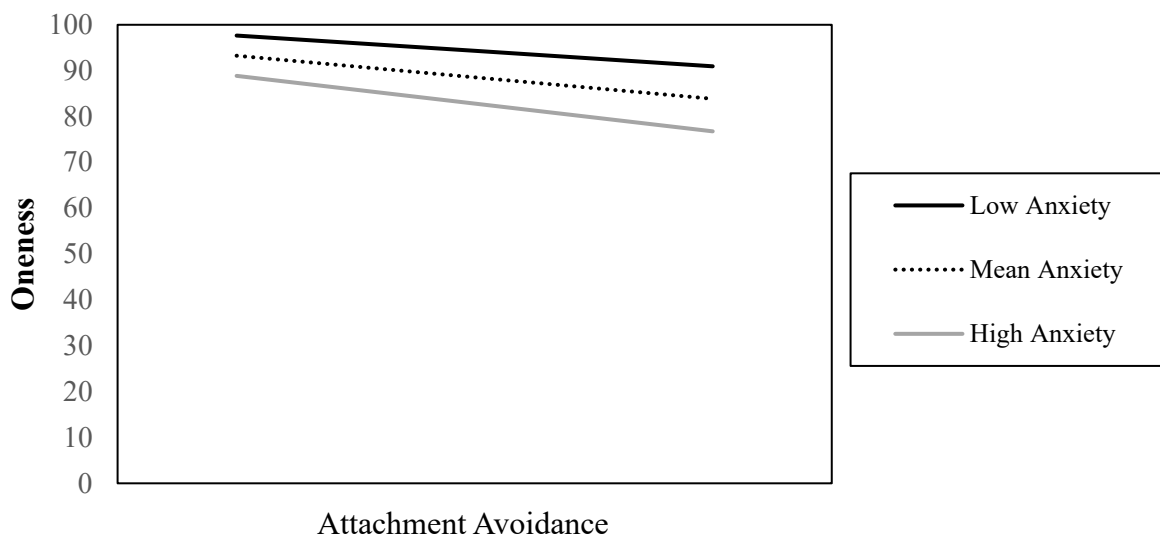Condition (Study 1)*

Results of the same three-way moderated regression model revealed non-significant interactions on satisfaction and oneness, although in both cases, there were significant negative main effects of attachment avoidance, such that satisfaction and oneness both decreased as attachment avoidance increased (see Figures 3-6).

**Discussion**

The aim of Study 1 was to combine the literatures on the attachment style-nostalgia connection and romantic relationship-oriented nostalgia. The expected three-way interaction between attachment avoidance, anxiety, and nostalgia was found when predicting commitment. Specifically, participants who scored at or above average on attachment avoidance and low on anxiety (i.e., dismissing-avoidant styles) reported lower partner commitment when primed with nostalgic thoughts about their relationship. This is consistent with previous work showing that, due to the social, bonding nature of nostalgia, more avoidantly attached persons are less likely to experience the positive sides of the emotion (e.g., Juhl et al., 2012; Wildschut et al., 2010). It is also consistent with other research that showed a relationship nostalgia writing prime increased commitment for those in high-conflict relationships (Swets et al., 2022c).

Whereas the expected pattern of results was found for commitment, it did not emerge for satisfaction or oneness. Although some work has shown that relationship nostalgia primes increase satisfaction and connectedness (Evans et al., 2022), other work has suggested that relationship nostalgia's effects are specific to commitment, with ambiguous or no significant effects on satisfaction (Mallory et al., 2018; Swets et al., 2022c). Why satisfaction and oneness would not be affected by nostalgic thoughts, though, is not immediately clear. One potential explanation is ceiling effects on these measures: Specifically, given the more affective nature of satisfaction and oneness, participants might overestimate their present levels, leaving little to no

room for upward movement, even with a nostalgia prime.[5] On the other hand, commitment, with its more cognitive, evaluative nature, might have more room to vary. More research is needed to delineate under what conditions nostalgia affects different metrics of relationship quality.

With evidence that a relationship nostalgia writing prompt can increase commitment among the less avoidantly-attached (with the opposite pattern for the more avoidant), it is valuable to consider whether similar findings can be obtained with a different nostalgia prime: music. Previous work has shown that music is an effective induction of nostalgia (e.g., Michels-Ratliff & Ennis, 2016), and listening to nostalgic songs (or even reading their lyrics) increases positive mood, optimism, perceived social connectedness, and meaning in life (Cheung et al., 2013; Routledge et al., 2011). Also, listening to songs that are reminiscent of one's romantic relationship can increase relationship satisfaction and optimism (Evans et al., 2022). Again, however, as in Study 1, no work has yet examined the potential moderating effect of attachment style on this manipulation.

## Study 2

Though nostalgia is typically primed via writing tasks like in Study 1, nostalgia is also activated by music. This makes sense because music is commonly experienced in daily life and evokes a variety of emotions, frequently including nostalgia (sometimes also described by listeners as *sentimental* and/or *dreamy*, e.g., Juslin et al., 2008; Zentner et al., 2008). Nostalgia research that has utilized music typically finds results that line up with those using other inductions, such as writing prompts. Examining the emotional experience of listening to nostalgic music, researchers have noted that nostalgia is strongest when songs are

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[5] Many couples (dating and married) have idealized views about the future of their relationship, the quality of their partner compared to others, and how much love is in their relationship, among other things (Murray & Holmes, 1997; Murray et al., 1996).

autobiographically salient, familiar, and evoke positive (e.g., love, joy) *and* negative (e.g., sadness, disappointment) emotions, consistent with the notion of nostalgia as bittersweet (Barrett et al., 2010; Michels-Ratliff & Ennis, 2016). It also appears that nostalgic songs are most often evocative of specific events and relationships with close others – friends, romantic partners, and family (Michels-Ratliff & Ennis).

Furthermore, music-evoked nostalgia, similar to recalled nostalgic narratives, also confers benefits for the self. Listening to nostalgic songs or even reading their lyrics increases positive mood, optimism, perceived social connectedness, and meaning in life (Cheung et al., 2013; Routledge et al., 2011). Evans et al. (2022) built on these findings by exploring the effects of listening to relationship-specific nostalgic songs. Compared to control positive songs, listening to songs that made participants feel nostalgic for their romantic relationships caused an increase in closeness, satisfaction, commitment, and love. Overall, research shows that music is a reliable trigger of a sentimental longing for the past, and it supplies benefits for romantic partnerships. However, it is unknown how attachment style interacts with music-evoked relationship nostalgia to affect perceived relationship quality and emotional reactions to the songs.

With this in mind, Study 2 was designed to meet two goals. The first goal was to determine whether listening to relationship nostalgic songs impacted self-reported relationship quality. Despite Study 1's findings being specific to commitment, I again included measures of satisfaction and oneness, given the use of the new music manipulation. Listening to songs generated in the nostalgia (vs. control) condition was hypothesized to increase self-reported relationship quality on these three outcome measures. As in Study 1, I also expected that avoidant attachment would moderate these results, such that more avoidantly attached

participants would report lower satisfaction, commitment, and oneness from experiencing nostalgia (vs. a control).

As a secondary, exploratory approach, I also measured the emotions and thoughts associated with the songs. I assessed this in two ways: The first way was through questionnaires, in which participants reported how much they felt different emotions (e.g., positive affect) and aspects of nostalgia (e.g., the places I went with my partner) in response to the songs. I hypothesized that in the nostalgia condition, self-reported autobiographical salience, familiarity, positive affect, liking, arousal, and meaning would be higher than in the control condition, and negative affect would be lower (see Michels-Ratliff & Ennis, 2016).

Second, I used the Linguistic Inquiry and Word Count (LIWC-22; Pennebaker et al., 2022) to measure different emotions and word usages in participants' open-ended responses to songs. LIWC is a text analysis software that counts the frequency of words in a given text that match predetermined dictionary categories, including function words (e.g., pronouns, prepositions) and content words (e.g., positive affect, affiliation). For the current study, I planned to focus on a few specific LIWC dimensions. First, I chose to analyze positive affect words and negative affect words because nostalgic memories are known to consist of mostly (but not totally) positive content and produce greater positive mood (e.g., Stephan et al., 2012; Wildschut et al., 2006). Second, I chose to analyze first-person plural pronouns (e.g., we, us, our). Previous research on nostalgia has found that these words are common in relationship nostalgic narratives (Swets et al., 2022b), which makes sense because they also indicate a more affiliative and collective focus, closeness, and commitment (Agnew et al., 1998; Frost, 2013; Stone & Pennebaker, 2002). I predicted that listening to relationship nostalgic songs would result in more

first-person plural pronouns (e.g., we, us), more positive affect words, and fewer negative affect words.

## Method

### Participants

Participants were undergraduate psychology students who participated for partial course credit. To participate, students needed to be at least 18 years old and in a romantic relationship (e.g., in a committed relationship, in a domestic partnership, engaged, or married). Using the effect size from the three-way interaction effect in Study 1, an *a priori* power analysis (Faul et al., 2009) showed that 481 participants would be necessary to achieve power of .80 ($p \leq .05$). I removed 38 participants who completed both Parts 1 and 2 but who indicated not being in a relationship ($n = 32$), failed an attention check ($n = 2$), or admitted to not paying attention during the study ($n = 4$). The final sample was 121 participants. A sensitivity power analysis (Faul et al.) suggested that with the given sample size, with power set at .80 ($p \leq .05$), the minimum effect size to reliably produce a statistically significant result for the three-way interaction was $R^2 =$ .06. To look just at the conditional differences (nostalgia vs. control) on song responses, however, for a small-to-medium effect size (Evans et al., 2022), at least 200 participants were needed.

For a portion of the sample, $n = 2$ (1.7%) reported being a music major or minor, $n = 14$ (11.6%) considered themselves to be a musician or singer, and $n = 40$ (33.1%) had received formal education in music (singing, instrument playing, music production, etc.); experimenter error prevented this information from being recorded for approximately 32% of the sample. See Table 4 for further demographic information.

**Table 4**

*Sample demographic characteristics (Study 2; N = 121)*

|  | Mean (SD) | Range |
| --- | --- | --- |
| Age | 19.96 (2.82) | 18-37 |
| Relationship Duration (in months) | 20.40 (18.87) | 1-108 |

|  | *n* | % |
| --- | --- | --- |
| Ethnicity |  |  |
|     White/non-Hispanic | 100 | 82.6 |
|     Hispanic/Latino(a) | 14 | 11.6 |
|     Asian | 3 | 2.5 |
|     Black/African American | 3 | 2.5 |
|     American Indian/Native American | 1 | 0.8 |
| Relationship Status |  |  |
|     In a committed relationship | 117 | 96.7 |
|     Married | 2 | 1.7 |
|     Engaged | 1 | 0.8 |
|     In a domestic partnership | 1 | 0.8 |
| Gender Identity |  |  |
|     Female | 103 | 85.1 |
|     Male | 17 | 14.0 |
| Sexual Orientation |  |  |
|     Heterosexual/straight | 112 | 92.6 |
|     Bisexual | 6 | 5.0 |
|     Gay | 1 | 0.8 |
|     Other/no response | 2 | 1.6 |

**Procedure**

*Part 1*

In an online format, participants who provided informed consent completed measures of attachment style (ECR-R; Fraley et al., 2000) and demographic information. Individuals were randomly assigned to one of two conditions: relationship nostalgia or popular songs (control). In the nostalgia condition, participants were provided with a definition of relationship nostalgia and were asked to list three songs that made them feel nostalgic. In the control condition, participants

saw a list of 10 popular, recent songs from a variety of genres and were asked about a) their familiarity with each song, b) how much they liked each song, and how much c) positive emotion and d) negative emotion each song made them feel. The order of these four questions and the order of the songs that followed each question were randomized. See Appendix for full instructions. Playlists for both conditions were then compiled and played using Spotify. For the nostalgia condition, playlists included participants' three listed songs. For the control condition, ratings on familiarity, liking, positive emotion, and reverse-scored negative emotion were averaged together for each song. Then, the three songs with the highest average ratings (i.e., most liked, familiar, and positive and least negative) were added to a playlist. This method for the control condition was chosen to closely compare nostalgic songs to liked, familiar songs and thus rule out any effects due to participants simply liking or not liking the songs they heard.[6]

*Part 2*

In an online format, participants were instructed to open a link to their personalized Spotify playlist and shuffle the 3-song playlist (so songs were played in random order). They were asked to listen to each of the three songs for at least 1 min (though they could listen as long as they wanted). Along with the link to their playlist, participants were sent a link to a Qualtrics survey where they entered the song title, artist, questionnaire responses (i.e., emotional reactions), and open-ended responses for each song they listened to. After listening and responding to all three songs, participants completed measures of satisfaction, commitment, and oneness. See Appendix for full measures. Finally, participants were debriefed and granted credit.

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[6] For a similar approach to song choosing, see also Chou and Lien (2010).

**Materials**

*Part 1*

   **Attachment.** Fraley et al.'s (2000) ECR-R measured avoidant and anxious attachment styles. Both subscales were reliable (avoidance $\alpha = .92$; anxiety $\alpha = .93$).

*Part 2*

   **Reactions to Songs**. For each song they listened to, participants first were asked to type a response to the question, "What emotions or thoughts do you have while listening to this song?" Then, following Michels-Ratliff and Ennis (2016), each sentiment category (i.e., nostalgia, familiarity, liking, arousal, meaning, positive emotion, negative emotion, & autobiographical salience) were rated on a 7-point Likert scale (1 = *none/not at all*) to 7 (*very much*). The first item, "How nostalgic do you find this song?" also served as a manipulation check to ensure that participants in the experimental condition felt more nostalgic than did the control participants.

   In addition, an adapted version of Mallory and colleagues' (2018) Relationship Nostalgia Inventory (RNI) determined the specific nostalgic aspects of each song. The prompt read, "I associate this song with a certain aspect of my romantic relationship," with options such as "Quality time we spent together" and "The first time my partner and I met." There were 18 different relationship aspects. Participants could select any/all applicable items and write in their own aspect if it was not listed.

   **Satisfaction**. Relationship satisfaction was measured with Rusbult et al.'s (1998) 7-item satisfaction subscale of the IMS. The scale was reliable ($\alpha = .87$).

   **Commitment**. The commitment subscale of the IMS (Rusbult et al., 1998) measured commitment. The scale was reliable ($\alpha = .82$).

**Oneness**. The single item, "To what extent would you use the term 'WE' to characterize your relationship with your partner?" measured oneness (Cialdini et al., 1997).

<div align="center">

**Data Analysis**

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I used SPSS Version 27 and PROCESS Version 4.0 for SPSS (Hayes, 2022) for all analyses in Study 2. There were no demographic differences (e.g., gender, age, relationship duration, race, sexual orientation) between experimental conditions ($ps \geq .10$). When conducting moderated regression analyses, continuous variables were centered, and categorical variables were dummy-coded. Moderated regressions were conducted with 5000 bootstrap iterations. Significant and marginally significant interactions were followed up with simple slope analyses and regions of significance tests at low ($-1SD$), mean, and high ($+1SD$) levels of the continuous variables (Aiken & West, 1991).

Independent samples $t$-tests showed there were no differences between the writing conditions on relationship status (married, etc.), duration, age, race, gender, or sexual orientation.

<div align="center">

**Results**

</div>

**Manipulation Check**

First, it was important to verify that participants in the nostalgia condition felt more nostalgic than did the control participants. To accomplish this, responses to the question "How nostalgic do you find this song?" were averaged together for the nostalgia and control groups. An independent samples $t$-test (0 = nostalgia, 1 = control) showed that the playlists generated in the nostalgia condition evoked more nostalgia on average ($M = 5.93$, $SD = 1.00$) compared to the control condition ($M = 4.58$, $SD = 1.26$), $t(119) = 6.44$, $p \leq .001$.

It was also important to determine that the nostalgic songs reminded participants of their romantic partners more than the control songs did. To assess this, I used participants' responses

to the question that appeared after each song, "I associate this song with a certain aspect of my current romantic relationship," after which participants could select up to 18 different qualities of their relationship. I compared the total number of selected qualities between conditions (maximum amount of 54 selections [18 qualities x 3 songs]) using an independent samples *t*-test. On average, participants in the nostalgia condition reported more connections to their relationship (*M* = 16.80, *SD* = 8.79) than did participants in the control condition (*M* = 8.39, *SD* = 6.22), *t*(119) = 6.16, $p \leq .001$. The nostalgic songs had more connections to the participants' current romantic relationships.[7]

**Main Analyses**

A main goal of this study was to determine whether listening to relationship nostalgic songs impacted reports of partner satisfaction, commitment, and oneness. Independent samples *t*-tests (0 = nostalgia; 1 = control) compared scores on each outcome measure. Consistent with Study 1, none of these results were statistically significant. However, the exception was commitment, on which the control condition scored higher than did the nostalgia condition. See Table 5 for descriptive and inferential statistics.

**Table 5**
*Descriptive and inferential statistics for conditional differences on relationship quality measures (Study 2)*

| | Mean (SD) | | *t* | *df* | *p* |
|---|---|---|---|---|---|
| | Nostalgia (*n* = 54) | Control (*n* = 67) | | | |
| Satisfaction | 7.14 (0.84) | 7.17 (0.91) | 0.16 | 119 | .873 |
| Commitment | 7.09 (1.21) | 7.52 (0.69) | 2.52 | 119 | .013 |
| Oneness | 85.39 (17.30) | 83.73 (14.77) | 0.57 | 119 | .571 |

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[7] The most frequently chosen nostalgic relationship feature in Study 2 was "Quality time we spent together."

In addition to the simple conditional differences on the relationship quality measures, I was also interested in how attachment avoidance and anxiety would interact with these results. I conducted three, three-way moderated regressions with condition, attachment avoidance, attachment anxiety, and their interaction predicting satisfaction, commitment, and oneness. When predicting commitment, there was a significant main effect of condition, such that commitment was higher in the control condition than in the nostalgia condition. There was also a significant main effect of avoidance, with higher avoidance predicting lower commitment. None of the two-way interactions were significant, nor was the three-way interaction ($R^2 < .01$). Though it is atypical to probe simple slopes of non-significant interactions, they were explored to maintain a consistent analysis approach between Studies 1 and 2 and to determine emerging trends. Indeed, a few significant simple slopes did emerge: When anxiety and avoidance were both average, commitment was higher in the control condition than in the nostalgia condition. Notably, this was also the case when anxiety was high *and* avoidance was either average or high. These results should of course be interpreted with caution; nonetheless, it is interesting to note the consistent trend of commitment decreasing among the avoidantly attached after a relationship nostalgia prime. See Table 6 and Figures 7-8[8].

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[8] I again tested covariates within the three-way interactions. When predicting commitment and oneness, relationship duration, gender, and relationship status were not significant covariates. For satisfaction, only duration was a significant covariate ($p = .004$). However, including this covariate does not change the pattern or significance of the overall interactions or the simple main effects; therefore, all results are discussed without covariates included in the models.

**Table 6**

*Inferential statistics for moderated regression predicting commitment (Study 2)*

|  | *b* | *SE* | *t* | *p* |
|---|---|---|---|---|
| Avoidance | -.41 | .18 | 2.27 | .025 |
| Anxiety | -.21 | .15 | 1.40 | .164 |
| Condition (0 = nostalgia; 1 = control) | .38 | .18 | 2.13 | .036 |
| Avoidance*Condition | .06 | .29 | .26 | .796 |
| Anxiety*Condition | .20 | .17 | 1.19 | .236 |
| Avoidance*Anxiety | -.04 | .11 | .40 | .688 |
| Avoidance*Anxiety*Condition | -.01 | .15 | .04 | .970 |
| Nostalgia vs. Control | | | | |
| Low Anx/Low Avoid | .07 | .27 | .27 | .790 |
| Low Anx/Mean Avoid | .13 | .28 | .47 | .639 |
| Low Anx/High Avoid | .19 | .52 | .36 | .715 |
| Mean Anx/Low Avoid | .32 | .25 | 1.31 | .193 |
| Mean Anx/Mean Avoid | .38 | .18 | 2.13 | .036 |
| Mean Anx/High Avoid | .43 | .30 | 1.45 | .150 |
| High Anx/Low Avoid | .57 | .40 | 1.42 | .158 |
| High Anx/Mean Avoid | .62 | .26 | 2.37 | .019 |
| High Anx/High Avoid | .67 | .25 | 2.69 | .008 |

**Figure 7**

*Interaction between Attachment Avoidance and Anxiety on Commitment in the Nostalgia Condition (Study 2)*
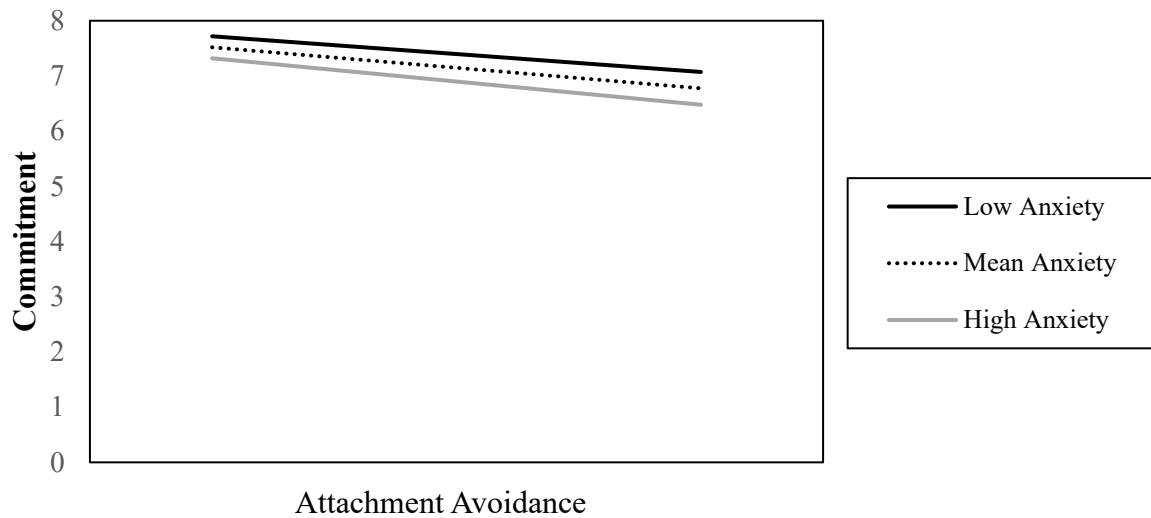


**Figure 8**

*Interaction between Attachment Avoidance and Anxiety on Commitment in the Control Condition (Study 2)*
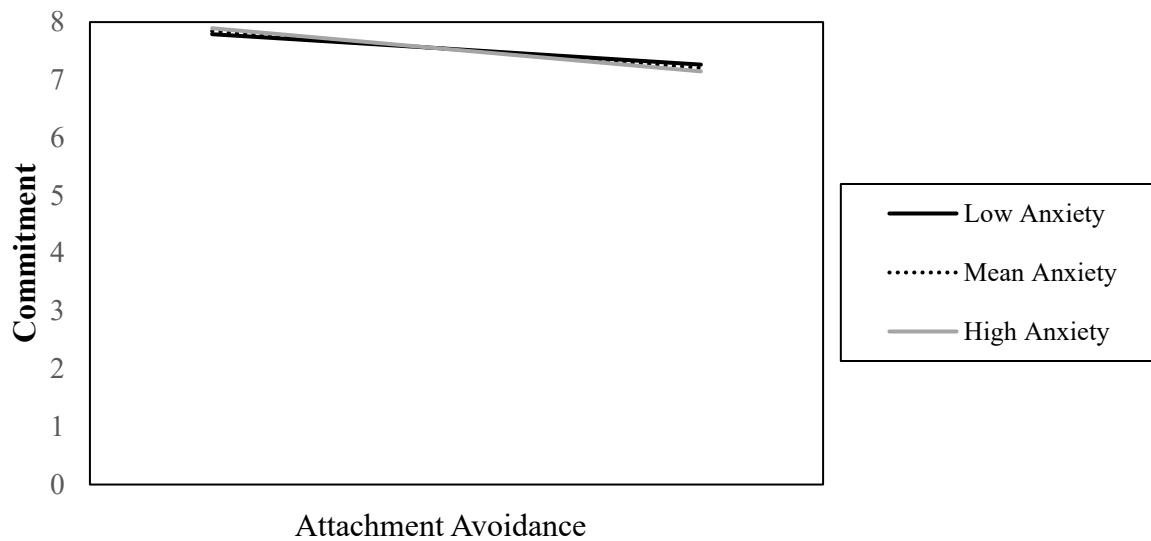
For the outcome variable of satisfaction, there were no effects of condition or significant interactions (or simple slopes), but there was a significant negative effect of avoidance, with higher avoidance predicting lower satisfaction. When predicting oneness, there were no significant main effects or interactions.[9] See Figures 9-12.

**Figure 9**

*Interaction between Attachment Avoidance and Anxiety on Satisfaction in the Nostalgia Condition (Study 2)*



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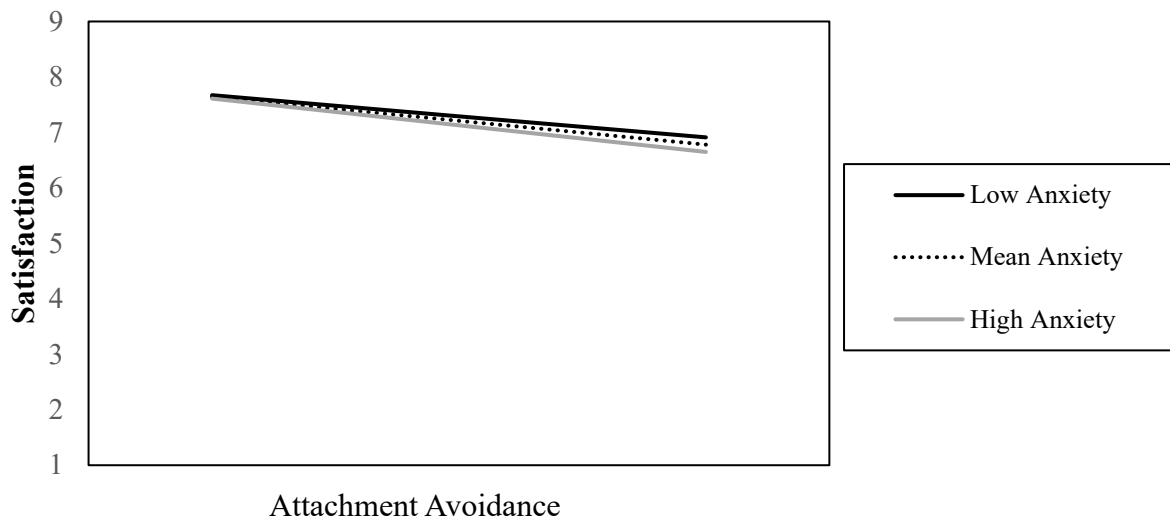
[9] Research on the psychology of music shows that a number of individual differences emerge amid music listening (e.g., purposes for listening, sensitivity to the emotional rewards of music; Mas-Herrero et al., 2013; Groarke & Hogan, 2018). Because of this, I also checked whether dispositional music importance was a potential moderator. I used Groarke and Hogan's (2018) Adaptive Functions of Music Listening Scale and one item from Bonneville-Roussy et al. (2013) measuring musical importance. Neither of these measures, when interacting with condition, created significant differences on relationship satisfaction, commitment, or oneness.

**Figure 10**

*Interaction between Attachment Avoidance and Anxiety on Satisfaction in the Control Condition (Study 2)*
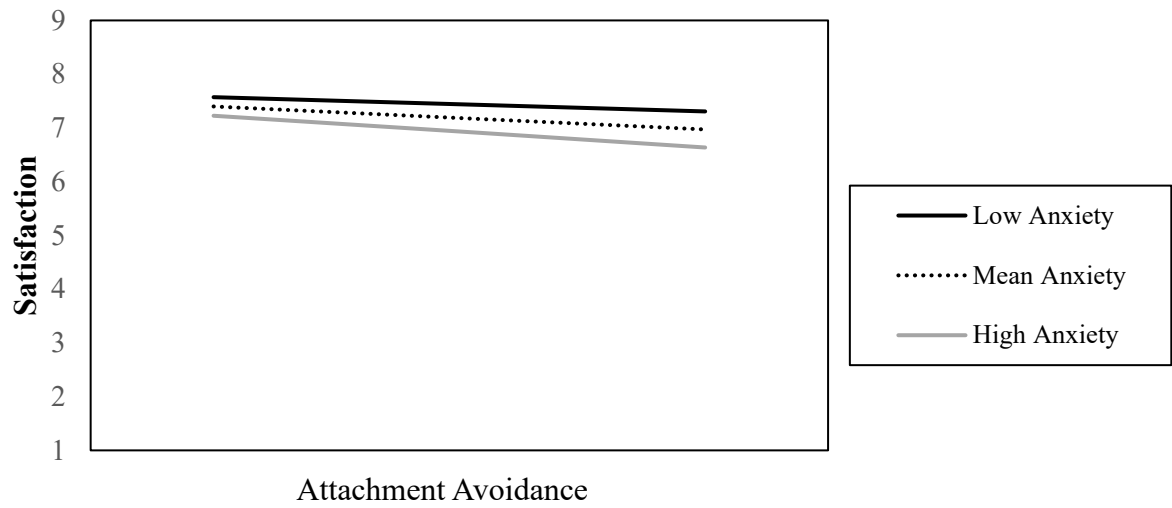


**Figure 11**

*Interaction between Attachment Avoidance and Anxiety on Oneness in the Nostalgia Condition (Study 2)*
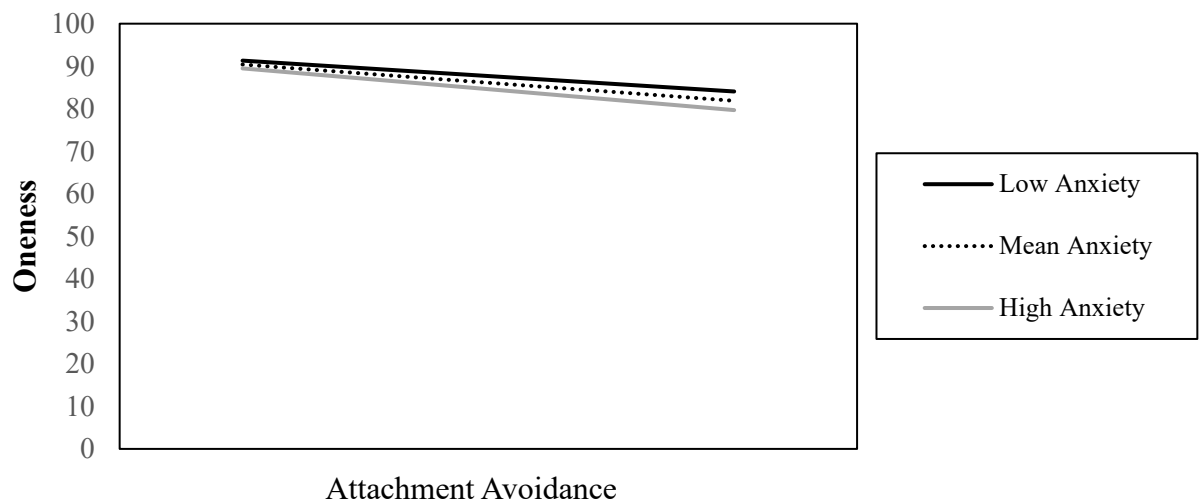
**Figure 12**

*Interaction between Attachment Avoidance and Anxiety on Oneness in the Control Condition (Study 2)*
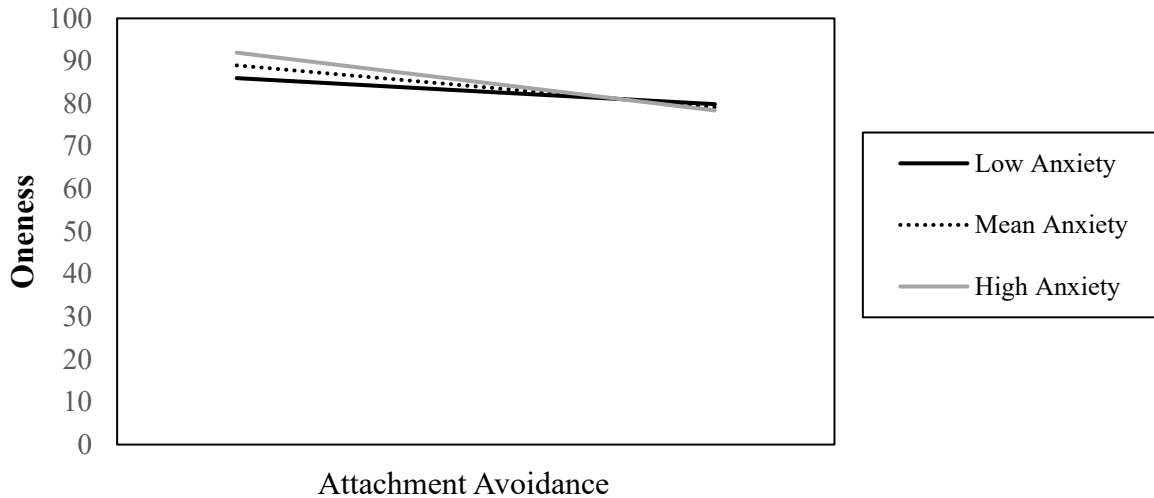


**Secondary Analyses**

An exploratory goal of this study was to test whether listening to relationship nostalgic (vs. control) songs would evoke a more positive affective response to the songs. I hypothesized that in the nostalgia condition, self-reported autobiographical salience, familiarity, positive affect, liking, arousal, and meaning would be higher than in the control condition, and negative affect would be lower (see Michels-Ratliff & Ennis, 2016). To test this, the scores for each of the three songs were averaged across participants. Then, independent samples *t*-tests (0 = control; 1 = nostalgia) compared scores on all outcome measures. Results showed that participants in the nostalgia condition reported higher than the control condition on all measures (and lower on negative affect) except for arousal. See Table 7 for descriptive and inferential statistics.

I also used Pennebaker et al.'s (2022) LIWC-22 to analyze the open-ended responses that participants provided for each song they listened to. Independent samples *t*-tests (0 = control; 1 = nostalgia) compared scores on first-person plural pronouns (e.g., we, us), positive emotion words, and negative emotion words. Results showed that participants in the nostalgia condition

used significantly more first-person plural pronouns and fewer negative emotion words than did
the control participants. There was no difference on positive emotion words.[10] See Table 8 for
descriptive and inferential statistics.

**Table 7**
*Descriptive and inferential statistics for conditional differences on average responses to
each song (Study 2)*

| | Mean (SD) | | t | df | p |
|---|---|---|---|---|---|
| | Nostalgia ($n =$ 54) | Control ($n =$ 67) | | | |
| Autobiographical Salience | 6.06 (1.19) | 4.80 (1.59) | 4.86 | 119 | ≤ .001 |
| Familiarity | 6.64 (0.60) | 5.90 (1.05) | 4.61 | 119 | ≤ .001 |
| Positive Affect | 5.99 (1.03) | 4.93 (1.11) | 5.41 | 119 | ≤ .001 |
| Liking | 6.49 (0.65) | 5.59 (0.83) | 6.55 | 119 | ≤ .001 |
| Arousal | 4.18 (1.79) | 3.87 (1.57) | 1.00 | 119 | .319 |
| Meaning | 6.02 (0.94) | 4.45 (1.16) | 8.11 | 119 | ≤ .001 |
| Negative Affect | 2.42 (1.58) | 3.18 (1.31) | 2.89 | 119 | .005 |

**Table 8**
*Descriptive and inferential statistics for conditional differences on LIWC analyses (Study 2)*

| | Mean (SD) | | t | df | p |
|---|---|---|---|---|---|
| | Nostalgia ($n = 54$) | Control ($n =$ 67) | | | |
| First Person Plural Pronouns | 0.80 (1.39) | 0.14 (0.41) | 3.67 | 119 | ≤ .001 |
| Positive Emotion Words | 10.13 (16.30) | 8.21 (9.80) | 0.21 | 119 | .456 |
| Negative Emotion Words | 1.63 (4.80) | 6.19 (11.61) | 2.71 | 119 | .008 |

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[10] There was also no significant difference between conditions for emotion words overall (combined positive and
negative).

**Discussion**

**Main Analyses**

A primary goal of this study was to determine whether listening to relationship nostalgic songs (vs. control songs) impacted reports of partner satisfaction, commitment, and oneness. Contrary to expectations, the relationship nostalgic manipulation on its own did not significantly affect relationship satisfaction or oneness and in fact produced the opposite result for commitment. Especially given Evans et al.'s (2022) findings that relationship nostalgic music boosted feelings of connectedness, love, and satisfaction relative, it was surprising that the present study did not reveal similar results. There are a couple of reasons why this might be the case. First is the difference in control conditions. Whereas Evans et al. asked participants in the control condition to think of a song "they enjoyed and was unrelated to their romantic relationship," in the current study, the control songs were liked by participants but were not necessarily unrelated to their relationships. As a result, even the control songs could have been mildly reminiscent of one's partner, creating some unintended increases on the relationship quality scales. Another discrepancy was the in-person versus remote settings in which participants listened to the music. Given that the present study was conducted remotely, and participants completed Part 2 unsupervised and on their own time, there was no way to truly know whether participants listened to songs for the instructed amount of time or the setting in which they listened to the songs; in contrast, participants in Evans et al.'s study completed the study in the presence of an experimenter. Perhaps the uncontrolled nature of Part 2 lent to the failure of the nostalgia prime to create differences in perceived relationship quality. A final limitation is that time constraints disallowed the current study to meet the desired sample size.

However, in line with hypotheses, a critical finding was that attachment avoidance moderated the effect of the nostalgia prime on levels of commitment. The pattern of results is generally consistent with the findings from Study 1; in Study 2, listening to nostalgic songs actually reduced commitment when participants' attachment anxiety was high and avoidance was at or above average levels. This is slightly different from Study 1's findings that were specific to mean/high avoidance and *low* anxiety, suggesting originally that nostalgia effects were specific to dismissing-avoidant types. Though Study 2's findings diverge slightly from this, finding the pattern among fearful avoidant types (i.e., higher avoidance and anxiety), a key consistency is the detrimental effect of avoidance on commitment. More avoidantly attached persons' relationships tend to be less committed in general (Bergeron et al., 2020; DeWall et al., 2011), and it makes sense that priming them with songs that are sentimental, meaningful, and autobiographically salient create an even stronger aversion to committing. Previous research has underlined the importance of considering attachment style, especially avoidant attachment, when measuring the benefits of nostalgia (e.g., Juhl et al., 2012; Mallory et al., 2018; Muise et al., 2020). The current study revealed results consistent with previous research measuring attachment style and nostalgia with a music manipulation.

Although it is still surprising that avoidance had no effect on satisfaction or oneness, its effects on commitment generally follow previous research showing that avoidantly attached persons have more negative reactions to a sentimental longing for the past (Juhl et al., 2012; Wildschut et al., 2010). The results being specific to commitment is also consistent with Study 1; as previously mentioned, this could be due to ceiling effects with satisfaction. Moreover, it is important to note that the three-way interaction predicting commitment did not reach overall significance, despite showing some significant simple-simple slopes in the hypothesized

direction; therefore, it should be interpreted with much caution. Hopefully, future research that is more well-powered can reproduce more convincing results to this effect. In sum, the current findings build on previous work (e.g., Evans et al., 2022) work by showing that relationship nostalgia, whether through a writing task or music, is not always relationship-promoting.

**Secondary Analyses**

As an exploratory goal, I was also interested in relationship nostalgic music's effects on positive outcomes (e.g., autobiographical salience, familiarity, positive affect, liking, arousal, meaning) and negative outcomes (e.g., negative affect). Results showed higher self-reported sensations of all positive outcomes except for arousal and lower negative affect after listening to relationship nostalgic music. These findings are consistent with Michels-Ratliff and Ennis' (2016) work, which found a similar pattern of results when playing songs for participants that were *similar* to the nostalgic songs they provided. Additionally, I used LIWC to explore the linguistic themes that emerged from free responding to the songs. These analyses showed that relationship nostalgia music produced more first-person plural pronouns and fewer negative emotion words compared to control music. This finding is also consistent with past work on nostalgia indicating that a sentimental longing for the past invokes a more positive mood (Wildschut et al., 2006) as well as a more collective focus and more first-person plural pronouns (e.g., Swets et al., 2022b). Although there was no effect on positive emotion words, Swets et al. actually found a similar result in their nostalgic narratives, so this is not unheard of. Additionally, participants presumably liked and were familiar with the songs they listened to even in the control condition, so it is not surprising that control participants also expressed some positivity in their writing.

Overall, the previous two studies offer considerable knowledge to the experiences of writing about a relationship nostalgic memory and listening to relationship nostalgic music. A factor that has yet been unexplored is the potential impact of listening to relationship nostalgic music *with* a romantic partner. Music listening is typically seen as a social activity that serves social functions such as communication (e.g., Hargreaves & North, 1999). As well, Liljeström et al. (2013) showed that, compared to listening to songs alone, listening with a close friend or romantic partner resulted in a more intense emotional and physiological response. Based on this research, it is possible that listening to nostalgic music *with a partner* is more beneficial than listening to it alone. It is also likely that attachment style moderates these findings, although unfortunately, I did not collect enough data to explore moderation in Study 3. Despite this, the following experiment was designed to improve upon some of the aforementioned methodological limitations of Study 2 and explore how listening to nostalgic music with a partner might change people's reports of relationship quality relative to listening to nostalgic music alone.

**Study 3**

Study 2 was expected to show that listening to relationship nostalgia playlists increases perceived relationship quality (for the less avoidantly attached) and expressed positivity. Although the hypotheses received mixed support, Study 3 aimed to improve on some methodological points of Study 2 and test an additional hypothesis. Specifically, instead of sending participants the playlist links and having them listen and complete the questionnaires unsupervised, in Study 3, all participants had to schedule a synchronous session with a trained research assistant (RA) to complete Part 2. During Part 2, participants joined a Zoom call with the RA, who was in charge of playing each song for the participants, prompting them to verbally

discuss their reactions to each song, and guiding them through the online questionnaires. This helped ensure that the participants were listening to three songs for at least 1 min each.

A second methodological change included changing the relationship outcome measures. Because neither the writing nor the music prime seemed to alter satisfaction or oneness scores, I decided not to include these measures. Despite wording these scales as "based on how you feel *right now,*" these constructs are still more global evaluations that might not be greatly affected by a brief prime such as music. Instead, I added two dependent measures that assess more state-level evaluations about felt security in one's relationship: state attachment (Gillath et al., 2009) and relational certainty (Knobloch & Solomon, 2009). Although not exactly nostalgia, a similar concept of relational savoring is theorized to promote relationship connectedness and personal well-being by activating thoughts of attachment security with an attachment figure (e.g., a romantic partner; Borelli et al., 2020). Therefore, I wanted to include a measure assessing temporary changes in attachment security. Also, perceived relational (un)certainty seems to access more situational relationship assessments (i.e., based on specific interactions, conflicts, communications with a partner; e.g., Solomon & Brisini, 2019). Because of this, I thought these two scales might better capture temporary feeling changes from listening to music.

Study 3 also tested an additional hypothesis to Study 2. Specifically, given the highly social nature of nostalgia and of music, I examined the effects of listening to nostalgic songs together with a romantic partner (vs. alone). Participants in Study 3 were randomly assigned to one of three conditions, in which they either listened to nostalgic songs alone, nostalgic songs together, or control songs together. The nostalgic songs were provided by the participants and the control songs were rated during Part 1 in the same manner as in Study 2. Then, in Part 2, the participant (in the nostalgia-alone condition) or the participant and their partner (in the nostalgia-

together and the control-together conditions) listened to the songs and discussed their reactions, which were audio recorded. Based on research on IET effects (Parkinson, 2011) and previous work on situational influences on music-evoked emotions (Liljeström et al., 2013), joint listening to nostalgic (vs. control) songs was hypothesized to increase relationship quality, measured by self-report metrics (e.g., commitment). Second, I expected that linguistic markers of positive affect and commitment/collective focus (i.e.., first-person plural pronouns) during song discussions would be highest in the nostalgia-together condition, measured by Pennebaker et al.'s (2022) LIWC. Finally, I also expected that positive outcomes (e.g., positive emotion, familiarity, etc.) would also be highest in this condition. Across measures, I had no hypothesis regarding the comparison between the nostalgia-alone and control-together conditions.

Although an original goal of Study 3 was to replicate the previous results of attachment insecurity on relationship outcomes as a function of nostalgia, statistical power was too low to obtain meaningful results. For this reason, the results for this study predominantly focus on differences between conditions and the qualitative findings of music listening.

**Method**

**Participants**

Participants were TCU psychology students who participated for partial course credit. To participate, students had to indicate being at least 18 years old and being in a romantic relationship. They may not have participated in Study 2. To obtain a small-to-medium effect (Evans et al., 2022) at power of .80 ($p \leq .05$) for group differences on the outcome measures, approximately 246 participants were needed (Faul et al., 2009). However, due to time constraints in collecting data, this sample size was not attainable; therefore, the interaction effects of attachment style, which would have required an even larger sample size, were not conducted.

Instead, I focused on the simple group differences on relationship outcomes (i.e., ANOVAs). The final sample included 33 TCU undergraduate students after removing the data of 13 participants who were not in a relationship at the start of the study or whose relationship ended between Parts 1 and 2. (Approximately 33 participants completed Part 1 but either did not sign up for a timeslot for Part 2 or did not attend their scheduled timeslot.) A sensitivity power analysis (Faul et al.) suggested that with the given sample size, with power at .80 ($p \leq .05$), the minimum effect size that would likely produce a statistically significant result for the ANOVAs was $R^2 = .34$.

For the TCU student sample, none reported being a music major or minor, $n = 1$ (3.0%) considered themselves to be a musician or singer, and $n = 9$ (27.3%) had received formal education in music (singing, instrument playing, music production, etc.). Participants received partial course credit for completing each part of the study. For Part 2, the romantic partners were allowed to receive course credit (if applicable) or $5.00 payment for their participation. See Table 9 for further demographic information.

**Procedure**

*Part 1*

The procedure of Part 1 of Study 3 mirrored that of Study 2 (e.g., attachment scale, demographic information). Participants randomly assigned to the control-together condition rated the given 10 songs on the same metrics (e.g., positive affect, negative affect, familiarity), and participants assigned to either of the relationship nostalgia conditions provided three nostalgic songs. Participants in the control-together and nostalgia-together conditions were emailed upon completion of Part 1 and notified that, to participate in Part 2, they and their romantic partners must be available to complete a session together via Zoom. Participants in the nostalgia-alone

condition were emailed to schedule their session by themselves. Playlists were created by RAs in

the same way as in Study 2.

**Table 9**
*Sample demographic characteristics for the responding participants (Study 3; N = 33)*

|  | Mean (SD) | Range |
|---|---|---|
| Age | 20.21 (1.88) | 18-28 |
| Relationship Duration (in months) | 18.61 (16.87) | 2-70 |
|  | *n* | % |
| Ethnicity |  |  |
| White/non-Hispanic | 23 | 69.7 |
| Hispanic/Latino(a) | 7 | 21.2 |
| Black/African American | 1 | 3.0 |
| Asian | 1 | 3.0 |
| Other | 1 | 3.0 |
| Relationship Status |  |  |
| In a committed relationship | 33 | 100.0 |
| Gender Identity |  |  |
| Female | 26 | 78.8 |
| Male | 7 | 21.2 |
| Sexual Orientation |  |  |
| Heterosexual/straight | 31 | 93.9 |
| Lesbian | 2 | 6.1 |

*Part 2*

Researchers joined Zoom meetings with the main participant (the TCU student who

completed Part 1) and their partner (if assigned to one of the "together" conditions). After

introducing the study and obtaining informed consent from all participants involved, researchers

opened and shuffled the relevant playlist, and the participant (and their partner, if applicable)

listened to the first song for at least 1 min (though they were allowed to listen as long as they

wanted). After playing each song, the RA administering the session asked participants, "What

thoughts and feelings do you have while listening to this song?" Participants/couples were

prompted to discuss their reactions to each song. Then, participants answered the same song reaction questions as in Study 2 (e.g., ratings of nostalgia, positive & negative emotion, etc.) and the adapted RNI (Mallory et al., 2018). This was repeated for two more songs (three songs total). After all three songs were played, participants completed Rusbult et al.'s (1998) commitment measure and two new scales (e.g., relational uncertainty, state attachment). At the end of the study, participants were debriefed and granted credit and/or paid. All sessions were audio and video recorded via Zoom.

**Materials**

*Part 1*

  **Attachment.** Fraley et al.'s (2000) ECR-R assessed attachment avoidance and anxiety. Both subscales were reliable in this study (avoidance $\alpha = .92$; anxiety $\alpha = .91$).

*Part 2*

  **Linguistic analysis**. Speech content was transcribed and analyzed using LIWC as in Study 2. With the help of two RAs, we transcribed only the main TCU partners' speech that occurred in response to each of the three songs.[11]

  **Reactions to songs**. The same measures used in Study 2 (e.g., nostalgia, positive & negative emotion) were used in Study 3.

  The adapted version of Mallory et al.'s (2018) Relationship Nostalgia Inventory (RNI) assessed the specific nostalgic aspects of each song.

  **Commitment**. Commitment was measured with the subscale from Rusbult et al.'s IMS (1998). The scale was reliable ($\alpha = .85$).

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[11] I chose to focus only on the TCU partners' speech to be consistent for the nostalgia-alone condition, which did not have another partner's speech to transcribe.

**Relational uncertainty.** Six items selected from the Relational Uncertainty Scale (RUS; Knobloch & Solomon, 1999) measured the extent to which participants felt certain about their partner and relationship. The RUS includes the stem "How certain are you about…" followed by each item (e.g., the future of your relationship). I added the words "Based on how you feel *right now,*" to the beginning of the prompt. Measured on a scale from 1 (*completely uncertain*) to 6 (*completely certain*), higher scores indicate more relationship certainty. The RUS was reliable ($\alpha$ = .87).

**State attachment.** The 15-item State Adult Attachment Scale (SAAM; Gillath et al., 2009) was used to measure the temporary fluctuations in secure, avoidant, and anxious attachment. The SAAM prompts respondents to respond to each statement by indicating how much you agree or disagree, based on *your current feelings* - how you feel *right now*," followed by five items each that measure attachment security (e.g., I feel loved), avoidance, (e.g., I feel alone and yet don't feel like getting close to my partner), and anxiety (e.g., I really need my partner's emotional support). I replaced "someone" with "my partner" in all the items to focus participants' attention on their romantic partners. The SAAM was measured on a scale from 1 (*disagree strongly*) to 7 (*agree strongly*). All items were randomized but scored separately on the three respective subscales, such that higher scores on the attachment security items suggest a more secure attachment representation in the moment, etc. The security ($\alpha$ = .79) and avoidance ($\alpha$ = .69) subscales were reliable in this sample, but the anxiety subscale was not ($\alpha$ = .49).

## Data Analysis

The main goal of Study 3 was to test whether listening to relationship nostalgic songs with a partner increased self-reported relationship quality (e.g., commitment, attachment, certainty) compared to listening to nostalgic songs alone or control songs together. I expected

that couples assigned to listen to nostalgic songs together would self-report higher relationship quality compared to couples who listened to control songs and persons who listen to nostalgic songs alone. As a secondary goal, as in Study 2, I was interested in the affective reactions to each song that the participants provided. I expected that listening to nostalgic songs with a partner would result in the highest reports of autobiographical salience, familiarity, positive affect, liking, arousal, and meaning and the lowest negative affect.

A final exploratory aim was to use LIWC (Pennebaker et al., 2022) to test whether the context of music listening would affect linguistic markers of mood and collective focus when discussing the songs. It was expected that couples assigned to listen to nostalgic songs together would use more positive language words and first-person plural pronouns and fewer negative words when speaking compared to the other two conditions. To test these hypotheses, between-subjects, one-way analyses of variance (ANOVAs) compared average scores between the nostalgia alone (coded as 0), control together (1), and nostalgia together (2) conditions on each outcome variable. I planned to run post-hoc Bonferonni tests on any significant omnibus ANOVAs.

One-way ANOVAs showed there were no differences between the writing conditions on relationship duration, age, race, gender, or sexual orientation.

## Results

### Manipulation Check

As in Study 2, I first conducted a one-way ANOVA on average nostalgia scores to ensure that participants in the nostalgia conditions experienced the emotion more strongly than did those in the control condition. The overall test was statistically significant, $F(2, 29) = 14.74$, $p \leq .001$. Post-hoc Bonferroni tests showed that although the nostalgia conditions did not differ from each

other (nostalgia-together: $M = 6.08$, $SD = 0.83$; nostalgia-alone: $M = 5.71$, $SD = 0.98$), both

conditions scored higher on nostalgia than did the control-together condition ($M = 3.33$, $SD =$

1.83). This result suggests that the nostalgia manipulation was effective at invoking the emotion.

I also wanted to determine that the nostalgic songs reminded participants of their

romantic partners more than the control songs did. As in Study 2, I used participants' responses

to the question, "I associate this song with a certain aspect of my current romantic relationship,"

to assess this difference. I compared the total number of selected qualities between conditions

using a between-subjects one-way ANOVA. Participants in the nostalgia-together condition

reported an average of 15.09 connections to their relationship ($SD = 2.29$), followed by the

nostalgia-alone condition with an average 12.33 connections ($SD = 2.54$), and then the control-

together condition with 4.67 connections ($SD = 4.39$). The overall test was only marginally

significant ($F[2,20] = 2.23$, $p = .134$. Bonferroni post-hoc tests showed a marginal difference

between the nostalgia-together and control-together conditions. Even with the marginally

significant outcomes, it is clear the nostalgia-condition (vs. the control condition) participants

felt more connections to their romantic relationships.[12]

**Main Analyses**

The main goal of this study was to determine whether perceived relationship quality

would be improved by listening to nostalgic songs alone, nostalgic songs with a partner, or non-

nostalgic songs with a partner. Results of one-way ANOVAs showed that the groups did not

differ on commitment or state attachment scores. There was, however, a difference between

conditions on relational uncertainty ($p = .050$). Post-hoc analyses showed that this result was

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[12] The most frequently chosen nostalgic relationship feature in Study 3 was "The music we listened to together."

driven by the nostalgia-together condition scoring significantly higher than the control-together

condition. See Table 10 for descriptive and inferential statistics.

**Table 10**
*Descriptive and inferential statistics for conditional differences on relationship quality measures (Study 3)*

| | Mean (SD) | | | | | |
|---|---|---|---|---|---|---|
| | Nostalgia Together ($n$ = 12)[a] | Control Together ($n$ = 9)[b] | Nostalgia Alone ($n$ = 9)[c] | $F$ | $df$ | $p$ |
| Commitment | 7.83 (0.26) | 7.56 (0.81) | 7.57 (0.55) | 0.84 | (2, 29) | .444 |
| SAAM Security | 6.67 (0.44) | 6.27 (0.90) | 6.73 (0.42) | 1.59 | (2, 29) | .223 |
| SAAM Avoidance | 1.37 (0.68) | 1.71 (0.79) | 1.49 (0.60) | 0.64 | (2, 29) | .537 |
| SAAM Anxiety | 5.27 (0.84) | 5.87 (0.73) | 4.93 (0.87) | 3.02 | (2, 29) | .066 |
| Relational Uncertainty[ab] | 5.79 (0.30) | 5.17 (0.83) | 5.63 (0.48) | 3.35 | (2, 29) | .050 |

*Notes.* Superscripts indicate conditions that significantly differed from each other at $p \leq .05$, according to post hoc Bonferroni tests. SAAM = State Adult Attachment Measure.

**Secondary Analyses**

An exploratory goal of this study was to determine whether listening to relationship

nostalgic songs would evoke a more positive affective response to the songs than the control

songs. Results of one-way ANOVAs and post-hoc Bonferroni test showed a similar pattern

across conditions. The nostalgia conditions scored similarly on all measures, and both scored

significantly higher than the control-together condition (with the reverse pattern for negative

affect). See Table 11 for descriptive and inferential statistics. Though the study is not sufficiently

powered to make conclusive statements, it appears that listening to relationship nostalgic songs

evokes more personal connection and positive affect than does listening to liked songs, and this

pattern emerges whether the nostalgic songs are listened to alone or with the partner.

**Table 11**

*Descriptive and inferential statistics for conditional differences on average responses to each song (Study 3)*

| | Mean (SD) | | | | | |
|---|---|---|---|---|---|---|
| | Nostalgia Together (*n* = 13) [a] | Control Together (*n* = 10) [b] | Nostalgia Alone (*n* = 9) [c] | *F* | *df* | *p* |
| Autobiographical Salience [ab, bc] | 5.64 (1.32) | 3.53 (1.30) | 5.89 (1.37) | 9.58 | (2, 31) | ≤ .001 |
| Familiarity [ab, bc] | 6.69 (0.57) | 5.10 (1.67) | 6.67 (0.60) | 7.82 | (2, 31) | .002 |
| Positive Affect [ab, bc] | 5.87 (1.11) | 3.53 (1.36) | 5.81 (0.96) | 13.76 | (2, 31) | ≤ .001 |
| Liking [ab, bc] | 6.23 (0.85) | 4.63 (1.42) | 6.19 (0.87) | 7.56 | (2, 31) | .002 |
| Arousal | 4.36 (1.61) | 2.70 (1.59) | 3.22 (1.77) | 3.06 | (2, 31) | .062 |
| Meaning [ab, bc] | 5.67 (1.19) | 3.50 (1.07) | 5.44 (1.30) | 10.58 | (2, 31) | ≤ .001 |
| Negative Affect [ab, bc] | 1.67 (0.88) | 3.63 (1.16) | 1.89 (1.11) | 9.58 | (2, 31) | ≤ .001 |

*Note.* Superscripts indicate conditions that significantly differed from each other at $p \leq .07$, according to post hoc Bonferroni tests.

Finally, I used Pennebaker et al.'s (2022) LIWC-22 to analyze the TCU participants'

speech when discussing reactions to each song. Results showed that although positive emotion

words were highest in the nostalgia-together condition, none of the conditions were significantly

different from each other. Also, participants in the control-together condition had the highest

number of negative emotion words, but again these results were non-significant[13]. There was a

marginal difference between conditions on first-person plural pronouns. Follow-up Bonferroni

tests showed that participants in the nostalgia-together condition used marginally more first-

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[13] There were also no significant differences between conditions for emotion words overall (combined positive and negative).

person plural pronouns than those in the control-together condition, though the other two

comparisons were non-significant. See Table 12.

**Table 12**
*Descriptive and inferential statistics for conditional differences on LIWC analyses (Study 3)*

| | Mean (SD) | | | | | |
|---|---|---|---|---|---|---|
| | Nostalgia Together (*n* = 14) [a] | Control Together (*n* = 10) [b] | Nostalgia Alone (*n* = 8) [c] | *F* | *df* | *p* |
| First Person Plural Pronouns [ab] | 3.08 (3.24) | 0.46 (0.94) | 1.88 (2.65) | 3.00 | (2, 29) | .066 |
| Positive Emotion Words | 4.71 (5.61) | 4.17 (3.77) | 3.63 (1.28) | 0.83 | (2, 29) | .963 |
| Negative Emotion Words | 0.98 (2.29) | 1.42 (1.44) | 0.66 (1.08) | 0.41 | (2, 29) | .666 |

*Note.* Superscripts indicate conditions that significantly differed from each other at $p \leq .07$, according to post hoc Bonferroni tests.

## Discussion

### Main Analyses

The primary goal of this study was to examine whether listening to relationship nostalgic

songs with a romantic partner would boost self-reported relationship quality relative to listening

to these songs alone. Contrary to expectations, there were no conditional differences on

commitment or any of the state attachment subscales. However, there was a difference on

relational uncertainty, with the nostalgia-together participants feeling more certain about their

relationships than the control-together participants. It seems that the combination of listening to

nostalgic songs and discussing them with a romantic partner was most effective in increasing felt

certainty. Previous work has found that emotional reactions to songs are more intense and

happier when listening with a close other, and also, when songs are self-selected (vs. randomly chosen; Liljeström et al., 2013), but the research provides relatively little about the listening context's impact on romantic evaluations. Study 3's findings seem to match and build on Liljeström et al.'s findings. Given relational *un*certainty's connection to decreases in relationship quality, distress, and communication detriments (among other things; Knobloch & Knobloch-Fedders, 2010; Solomon & Brisini, 2019), it is promising to have preliminary evidence of such a simple intervention to alleviate this problem.

As in Studies 1-2, it was surprising that the present study found no effect of condition on the commitment or state attachment scales. However, given the very small sample size, I was not able to test any moderation effects of attachment, which is what drove the expected significant effects in Studies 1-2; the lack of participants could also explain the non-significant difference on the commitment and attachment subscales. Another potential caveat and reason why the nostalgia conditions were not different from each other is that the Zoom format, though practical, might not have offered a truly intimate, connection-enhancing context. In fact, couples were not required to be in the same physical space during the session. Related to this, the presence of the experimenter in the Zoom meeting could have altered the couples' reactions to the music. Perhaps listening to nostalgic music when physically in the presence of one's partner, and absent from a watchful experimenter, would produce relationship-benefitting effects beyond those produced by listening to the songs alone. Regardless of the limitations, however, we do have some preliminary evidence of the positive effects of listening to relationship nostalgic music and directions for further research.

**Secondary Analyses**

An additional goal of Study 3 was to replicate the findings of Study 2 – that nostalgic music produced more positive reactions to songs than control songs did. Preliminary findings of Study 3 tentatively supported this: Participants' positive reactions (e.g., nostalgia, autobiographical salience, familiarity, positive affect, liking, meaning, arousal) were higher and negative reactions (e.g., negative affect) were lower after listening to relationship nostalgic music compared to control music. Interestingly, listening to nostalgic music with a partner produced essentially the same outcomes as listening to the songs alone, both of which produced more positive outcomes than the control-together condition did. This pattern suggests that the nostalgic value of the songs, and not necessarily the presence of one's romantic partner, was the driving factor of positive mood and personal connection. In some ways, this was not expected, as previous work (Liljeström et al., 2013) found that joint music listening elicited stronger and more positive emotions (e.g., happiness, admiration, enjoyment) than did solitary listening, and listening to music with a partner or close friend (vs. alone) is more strongly linked to pleasure/enjoyment (Juslin et al., 2008). Nonetheless, it is also reasonable that the nostalgic connection to the music had a stronger effect than the music listening context did; after all, music deemed to be nostalgic is strongly and positive, even more so than autobiographically relevant but non-nostalgic songs (Barrett et al., 2010).

Finally, LIWC analyses were conducted on the TCU partners' words in the post-song discussions and examined for differences in first-person plural pronouns, positive emotion words, and negative emotion words. Consistent with hypotheses and with Study 2's findings, participants in the nostalgia-together condition used more first-person plural pronouns (e.g., we, us) compared to participants in the nostalgia-alone and control-together conditions. In addition, there were no significant differences on emotion words, which was contrary to hypotheses, given

that nostalgia typically evokes more positive emotion (Wildschut et al., 2006), and joint music listening could reasonably exacerbate this effect relative to solo listening (Liljeström et al., 2013). However, numerically, it appeared the speech was more positive in the nostalgia-together condition and most negative in the control-together condition. It is possible that the very small sample size was insufficient to detect statistically significant effects. Also, similar to the relationship quality measures, I was unable to examine moderating effects of avoidant and/or anxious attachment, which could potentially reveal findings similar to those of Studies 1-2. For instance, Dunlop and colleagues (2020) found that "we-talk" was negatively associated with both avoidant and anxious attachment in narratives pertaining to romantic relationships. Despite not finding convincing evidence for the nostalgia manipulation on emotional language when discussing the songs, it does at least appear that listening to nostalgic music along with a partner increases collective focus and inclusion (e.g., Agnew et al., 1998; Klauke et al., 2020).

## General Discussion

In this research, I analyzed the interactive effects of attachment style and relationship nostalgia on relationship quality. In Study 1, results showed that when avoidance was at or above average and anxiety was low, commitment decreased after a relationship nostalgia writing prime. In Study 2, using a music prime, the same three-way interaction between attachment avoidance, anxiety, and nostalgia was non-significant, so the results should be understood with caution; nonetheless, simple slope analyses showed that at mean levels of anxiety and avoidance, commitment was lower after listening to nostalgic music. This difference also emerged when anxiety was high, and avoidance was at or above average. This suggests that for people who are especially avoidant, nostalgic thoughts about one's relationship can be harmful for commitment.

In both experiments, these results seemed to be specific to commitment, with no significant interactions (or simple slopes) predicting satisfaction or oneness.

The findings on commitment add to the literature on nostalgia in the context of romantic relationships. Although the existing research highlights the positive consequences of general, personal memories (e.g., Sedikides & Wildschut, 2018), plenty of work has also demonstrated that avoidantly attached persons react differently (and less positively) to the emotion (e.g., Juhl et al., 2012). No research, until now, has shown a similar pattern of results for relationship nostalgia. And, the current findings showed a comparable pattern using two different nostalgia primes. Evans et al.'s (2022) research is, to my knowledge, the only other work that has primed relationship nostalgia through music and found positive results. The current Study 2 adds to this research by demonstrating that listening to songs reminiscent of one's relationship does promote commitment to a partner, but only when people are more securely attached (i.e., lower on anxiety and avoidance). Thus, it seems important to assess attachment style when studying and making claims about relationship nostalgia.

These findings on commitment are consistent with attachment theory and research. People with a more unreliable model of attachment figures are naturally more averse to intimacy and less likely to depend on close others for support (e.g., Birnie et al., 2009; Mikulincer & Shaver, 2016). This is a deep-rooted psychological pattern. Indeed, research shows that adults with early childhood memories of caregiver availability, responsiveness, or provision of effective comfort have better romantic relationship functioning in their adulthood (Waters et al., 2018). More avoidantly attached adults also want less closeness in their relationships, with damaging implications for relationship satisfaction, commitment, and individual mental health for both themselves and their romantic partners who might desire more closeness (Frost & Forrester,

2013; Mashek et al., 2011). When people are asked to think about a nostalgic time they shared with their partner, or listen to sentimental songs about their relationship, all these relationship thoughts that avoidant persons find aversive – times of closeness and intimacy – are the ones being activated. Even in freeform nostalgic narratives, more avoidant persons mention fewer attachment-related themes (Abeyta et al., 2015b), consistent with their internal working models of autonomy and commitment aversion (Birnie et al., 2009). Therefore, it makes sense that as avoidant attachment increases, the intent to the persist in the relationship decreases after a nostalgia prime.

It is also important to consider the role of attachment anxiety in the link between relationship nostalgia and commitment. As previously mentioned, most nostalgia research has neglected to find significant effects of attachment anxiety, instead emphasizing attachment avoidance. To be sure, the current findings regarding anxiety were mixed; in Study 1, nostalgia reduced commitment among the highly avoidant and the *less* anxious, but in Study 2, the same results emerged for those with *average* to *high* anxiety. In both studies, the results were specific to those at or above average on avoidance, suggesting that, consistent with past research, avoidance might be a more potent predictor of people's responses to nostalgia. However, this inconsistency could potentially be attributed to the difference in nostalgia primes. Whereas writing about a nostalgic memory might be more triggering for the avoidantly attached, listening to nostalgic music could be more emotionally evocative and threatening for the avoidantly and anxiously attached. There is a lack of research on attachment differences in people's responses to music, so it is difficult to know whether this was the case. However, we do know that music is a strong elicitor and manipulator of emotions via a variety of mechanisms (Juslin & Västfjäll, 2008). Listening to nostalgic songs, more so than recalling a memory, could trigger the

hyperactivation system of anxious persons, which is linked to heightened emotional reactivity and negative mood (Wei et al., 2005). This could be especially true if the songs are reminiscent of times in the relationship that were a) difficult (or bittersweet) or b) more positive than the present, inducing an uncomfortable sense of discontinuity and upward comparisons to the past (Iyer & Jetten, 2011). It is also important to note the small sample size of Study 2 that could have affected these results. Hopefully, future researchers can more fully examine the influence of attachment anxiety in responding to relationship nostalgic songs (and nostalgia in general).

Although there were significant results across Studies 1-2 regarding commitment, these results did not extend to feelings of satisfaction or oneness. This was somewhat surprising, given that previous work (e.g., Evans et al., 2020) has found that relationship nostalgia primes have increased satisfaction and felt closeness, and attachment avoidance has lessened relationship satisfaction after a nostalgia prime (Juhl et al., 2012). Nonetheless, there are other studies that have found non-significant links between relationship sentimentality and satisfaction (Mallory et al., 2018; Swets et al., 2022c). I mentioned previously that one explanation for this discrepancy is the potential ceiling effects of satisfaction. Additionally, satisfaction and commitment are theoretically distinct constructs, with satisfaction referring to the positive affect and rewards/costs ratio in a relationship and commitment referring to the more multifaceted notion of psychological dependence and long-term orientation toward a partnership (Agnew & Arriaga, 2001; Rusbult, 1980; Rusbult et al., 1998). It is possible that perceived satisfaction or oneness, which might be more short-term evaluations, could be relatively unaffected by the current nostalgia manipulations, but that thinking of a past time with a partner could cause a reevaluation of a long-term commitment among the very avoidantly attached. If this is the case, it is telling about the potential of nostalgia: Research has shown that commitment is the main variable that

predicts relationship survival and – more so than satisfaction, love, intimacy, and many personality variables (Le et al., 2010; Rusbult, 1983).

The secondary aim of this work was to understand, in a general sense, the experience of listening to relationship-relevant nostalgic music. This was accomplished in Studies 2 and 3. I found that relationship nostalgic songs were higher on self-reported autobiographical salience, familiarity, positive affect, liking, and meaning (and in Study 3, arousal) and lower on negative affect, compared to control songs that participants reported liking and knowing. In open-ended responses to the songs, I also found that participants who listened to nostalgic songs used more first-person plural pronouns and fewer negative emotion words than did participants who listened to control songs, with positive emotion words trending higher in nostalgia conditions as well.

In daily life, music evokes a variety of emotions, frequently including nostalgia (sometimes also described by listeners with synonyms like *sentimental* or *dreamy*, e.g., Juslin et al., 2008; Zentner et al., 2008), and songs are usually reminiscent of close others, such as friends and romantic partners (Janata et al., 2007). In the nostalgia tradition, research finds that the most nostalgic songs are those that are familiar and autobiographically salient and evoke both positive and negative emotions, in line with the notion of nostalgia as bittersweet (Barrett et al., 2010; Michels-Ratliff & Ennis, 2016). Further, music-evoked nostalgia tends to boost positive outcomes for individuals, such as social connectedness, life meaning, self-esteem, and optimism (Cheung et al., 2013; Routledge et al., 2011). Given these rewards, as well as the inherently social/relational nature of music, it makes sense to explore the benefits of relationship-specific nostalgic songs. However, our knowledge on nostalgic songs among couples is scarce. We do know that it is common for couples to have a "couple-defining song (CDS)," which is most often acquired during the first months of the relationship, linked to their identity as a couple or

memory of a specific event, and evocative of happiness, love, and nostalgia/mixed emotions (Harris et al., 2020). These findings hint at an undercurrent of nostalgia in relationship-relevant music.

However, there is only one previous study to my knowledge that has explicitly measured relationship nostalgic music. In this study, Evans et al. (2022) asked participants to listen to either a song that made them feel nostalgic for their relationship or a song they enjoyed but was unrelated to their relationship. Those who listened to a nostalgic song about their relationship reported higher connectedness, satisfaction, love, and optimism for their partnership. The current findings build on this body of research in a couple of ways. First, the findings show the importance of considering attachment style in responses to relationship nostalgic music. I can agree with Abeyta and colleagues' (2015) note that relationship nostalgia is not "a one-size-fits-all experience," (p. 412) as it is often portrayed. As in Study 1, it seemed that avoidantly attached people endorsed lower commitment after nostalgia, but in contrast, so did anxiously attached people. As I mentioned earlier, this could be attributed to additional emotional arousal stemming from the music listening experience that distinctly affected the hyperactivation attachment system. It is also important to recall that Study 2 was rather underpowered for a three-way interaction, and these results should be understood with this qualification in mind. Nonetheless, the findings add to the narrative of the pervasive aversion to nostalgia among the avoidantly attached.

A second way that the current results add to the existing knowledge on relationship nostalgic music is by investigating the qualitative nature of the music listening experience. To build on Michels-Ratliff and Ennis' (2016) work on personally nostalgic songs, I wanted to figure out whether relationship nostalgic music also had distinct features from songs that were

(relatively) liked, positive, and familiar. Indeed, in Studies 2-3, I found that nostalgic songs elicited more positive outcomes than did the control songs. It is interesting to consider that the nostalgic songs were perceived and rated more positively than the control songs, yet their effect on the relationship quality metrics (without accounting for attachment style) was limited. In fact, surprisingly, in Study 2 the control condition actually scored higher on commitment than the nostalgia condition did. Similar to this, LIWC analyses showed no difference in positive affect words between conditions in Studies 2 and 3. Here it is important to reiterate the *bitter* part of the *bittersweet* character of nostalgia, including in music. For instance, in addition to feelings of love and joy, nostalgic music is also known to produce strong feelings of sadness, in addition to disappointment and suffering (Barrett et al., 2010). Interestingly, Michels-Ratliff and Ennis also found that there was more negative affect associated with songs reminiscent of romantic partners than with songs reminiscent of anyone else (e.g., friends, siblings). Although the present findings are slightly divergent from Evans et al.'s (2022), it is still reasonable that listening to sentimental songs from a relationship's past could evoke some ambivalent and difficult feelings and even carry over into evaluations of the relationship's future (i.e., commitment).

Building on the exploratory approach to relationship nostalgic songs, I also wanted to determine what specific features people were associating with the nostalgic songs they chose. I did this by altering Mallory et al.'s (2018) Relationship Nostalgia Inventory to ask participants which of the given relationship features they associated with the songs they heard. Across Studies 2-3, the most common features were "Feeling safe and secure when we were together" and "The music we listened to together." Anecdotally, these themes are corroborated by the post-song discussions from Study 3. For example, some participants said the songs made them feel "peaceful," "tender," and the like. Multiple participants in long-distance relationships said the

nostalgic songs reminded them of their partners and of home. Relating to the second feature, many participants mentioned specific times that they listened to the nostalgic songs with their partners – their partner first showing them the song or hearing the song on one of their first dates. Similar to Michels-Ratliff and Ennis' (2016) work, it was also not uncommon for nostalgic songs to be associated with multiple types of relationships. For instance, many participants also mentioned friends and family (e.g., parents, grandparents) in their post-song discussions. Nostalgia is a complex and deeply personal emotion, and often, the content and details of nostalgic memories are overlooked in favor of quantitative self-report outcome measures. I thought it important to more fully explore what people are thinking and feeling when they hear relationship nostalgic songs.

The third key aim of this work was to assess the effects of listening to nostalgic songs synchronously with a romantic partner relative to listening to nostalgic songs alone – this was appraised in Study 3. For the most part, the small sample size likely prevented many of the results from reaching statistical significance; however, looking at the raw values, the nostalgia-together and nostalgia-alone conditions did not statistically differ on the relationship quality outcomes (e.g., commitment, state attachment, security), but both of these conditions scored higher than the control-together condition. For reactions to the songs, similar results were found. Though both nostalgia conditions scored higher on autobiographical salience, familiarity, positive affect, liking, arousal, and meaning and lower on negative affect compared to the control condition, the two nostalgia conditions were not significantly different from each other. The nostalgia-together condition also had the most first-person plural pronouns and positive emotion words and fewest negative emotion words, though again, these comparisons did not reach statistical significance.

There was reason to believe that listening to nostalgic songs with a partner would have produced more positive outcomes than listening to them alone. For instance, Liljeström et al. (2013) showed that, compared to listening to songs alone, listening with a close friend or romantic partner resulted in a more intense emotional and physiological response. Also, listening to music in everyday life with a partner or close friend (vs. alone) has been linked to higher levels of pleasure and enjoyment (Juslin et al., 2008). At the same time, however, other evidence has found little impact of situational context on certain music-evoked emotions. Egermann et al. (2011) showed that listening to song excerpts with other people had no effect on self-reported emotional reactions compared to listening alone, and listening alone actually produced stronger physiological responses (e.g., skin conductance). Additionally, research has shown that listening to music in a social context elicits more pleasure, happiness, and enjoyment, but listening to music alone can produce equal amounts of love, interest, and confidence, and perhaps even stronger feelings of calmness, sadness, *and* nostalgia/longing (Juslin et al.; Liljeström et al.). A more well-powered study could help to address these discrepancies in the research. However, based on the evidence at hand, it appears that, with little to no differences between the two nostalgia conditions but both of them being more positive than the control-together condition, I could tentatively suggest that the content of the music – the nostalgic, relationship-relevant value – is a stronger effect on a person's relationship evaluations than is the context of listening to the music – the partner being present or not. Indeed, the existing research does suggest that equally potent emotions can emerge when listening alone. A practical limitation of the small sample size was that I was unable to assess moderation effects of attachment style. It is possible that more avoidantly attached persons (and perhaps anxiously attached; Study 2) might have more negative

reactions to listening to nostalgic songs with a partner, as their presence might aggravate the already aversive feeling of nostalgia.

It is important to consider some mechanisms by which retrieving nostalgic memories might affect people's relationship evaluations. A wealth of research shows that nostalgia works to maintain psychological homeostasis in response to psychological threats (e.g., loneliness, existential threats; Sedikides et al., 2015b). Extending this idea, Zhou and colleagues (2012a) suggest that nostalgia can and does affect the physical body as well (and subsequent emotional states) via its ability to regulate physiological arousal. For instance, the researchers found that bringing to mind a nostalgic memory alleviated the physical discomfort of cold temperatures. This is consistent with research showing that positive affect more generally can also buffer against the negative consequences of stress (e.g., cardiovascular reactivity; Folkman & Moskowitz, 2000). Thus, it makes theoretical sense that sentimental emotions could work via the central nervous system to regulate emotional arousal, including processes of upregulating positive feelings and downregulating negative feelings (Aldao et al., 2015). One study by Oba et al. (2016) partially supports this: Participants who viewed more nostalgic photos (vs. neutral photos) showed more activity in several reward-related brain regions and the hippocampus, which together play integral roles in the body's stress and emotion regulatory systems (Pace-Schott et al., 2019). Connected to the current work, it is likely that nostalgia via music is even more strongly rooted in a person's physiology. Emotional music creates measurable bodily responses, such as skin conductance, body temperature, and zygomatic activity (Lundqvist et al., 2009). People also know that music is an emotional regulator, and they even report listening to different music genres for different emotional regulatory purposes (e.g., classical music for negative mood management; hip hop for positive mood management; Cook et al., 2019). Thus,

we can think of nostalgia as a resource for emotional regulation, both psychological and physiological, and the same is likely true for relationship-specific reverie.

It is again helpful here to integrate research from an attachment theory perspective to understand how relationship nostalgia functions differently for different people. In general, more securely attached persons can rely on their attachment figures to provide support and trust themselves to effectively reappraise new situations; this allows them to use more constructive emotion regulation strategies and truly enjoy and express positive emotions, especially when recalling memories from their past (Mikulincer & Shaver, 2016; Roisman et al., 2004). In contrast, more avoidantly attached persons tend to inhibit their support seeking and reappraisal strategies, instead viewing their own fears or insecurities as weaknesses, therefore leading to more distancing from and suppression of their own emotions. For example, studies have found that people who are more avoidantly attached exhibit physiological reactions consistent with a stress response (e.g., skin conductance) when presented with relationship stressors (Mikulincer & Shaver). When discussing conflict, even having a more avoidantly attached partner results in more physiological responding, measured by higher baseline and peak cortisol levels throughout the discussion (Brooks et al., 2011). However, despite this increased physiological arousal, avoidant persons might suppress the amount of negative emotion *and* positive emotion that they feel and report (Roisman et al.; Shaver & Mikulincer, 2008). In turn, the hyperactivation of the attachment system associated with attachment anxiety is linked to an intensification of (negative) emotions and a lack of self-confidence to manage self-threats. Lab studies show that anxiously attached persons overreport their subjective feelings of stress relative to their physiological readings, suggesting a tendency toward exaggeration of distress (Mikulincer & Shaver). All these findings have led some researchers to propose that attachment insecurities could be linked to

neural deficits in the hippocampal region, which operates emotion regulation (Quirin et al., 2010). In sum, attachment-related differences in emotion regulation at the physiological level map onto the current findings of attachment differences in response to the emotion of nostalgia. This lends support to Zhou et al.'s (2012a) notion of nostalgia as an agent of psychological and physiological homeostasis.

**Limitations**

There are several limitations to be considered with this work. Some limitations exist across all three studies. First, all studies relied on measures that might be subject to self-report biases; especially when assessing romantic relationships, people might be more likely to idealize and inflate their quality. And, although self-reported commitment seems to be a reliable predictor of relationship duration (e.g., Le et al., 2010; Rusbult, 1983), there are no behavioral or longitudinal measures to claim whether actual partner commitment was affected throughout these studies. Second, I examined a limited number of relationship quality outcomes throughout the studies, and other than the song-related response measures in Studies 2-3, I did not include any personal well-being outcome measures. Other work (e.g., Evans et al., 2022) has found that relationship-specific nostalgia affects other measures such as love and optimism, and general nostalgia improves a variety of outcomes, such as general mood, interpersonal competence, and more (e.g., Wildschut et al., 2006). Even with the measures included herein, we do not have a complete picture of how nostalgia affects romantic relationships and personal well-being. Third, I also only included a limited number of *negative* outcome measures (exceptions being the state attachment insecurity measures in Study 3 and the negative affect question for each song in Studies 2-3). To really assess the "bittersweet" quality of relationship nostalgia, especially in music, more scales that assess potential negative outcomes of nostalgia are needed. This would

potentially shed more light on the experiences of the avoidantly and anxiously attached as they experience a sentimental longing for the past.

Another limitation throughout the studies is the relatively limited demographic sample. Across samples, approximately 76% were White/non-Hispanic, 79% were women, and 86% identified as heterosexual/straight, and the average age was approximately 25 years old. Although there is little existing evidence that suggests that relationship nostalgia would function differently for many demographic characteristics, recent research suggests that general nostalgia proneness might differ across different ethnic groups, and there is mixed evidence about the effect of age and gender on the likelihood of experiencing nostalgia (Newman, 2022; Turner & Stanley, 2021). Nonetheless, the extent to which the current results generalize to a more diverse sample of persons is limited. This is especially true regarding relationship status (e.g., married vs. not married) and relationship duration. Including both married and non-married participants and a wide range of relationship duration glosses over some potentially important and interesting variations in how relationship nostalgia might operate in relationships. I also only analyzed data of those in inherently committed relationships, although this limits the potential variance of relationship variables like relationship certainty, oneness, and commitment itself. In other words, these people were already committed to their partners, potentially with little influence from nostalgic primes.

Studies 2 and 3 also have their own limitations to acknowledge. First, as previously stated, participants in Study 2 were unattended when completing Part 2 and listening to their playlists. There were some built-in manipulation checks, such as requiring participants to list the titles and artists of the songs they heard, to increase the chances that I was only using data of participants who in fact listened to the songs and followed instructions. However, there was no

way of knowing how long participants listened to each song or the environment in which they heard the songs. Another potential limitation in Studies 2-3 was the selection of the songs in the control conditions. The 10 possible songs were chosen from popular playlists in Spotify from a variety of genres to increase the chance that participants would know the songs. Then, the three songs rated highest on liking, positive emotion, and familiarity and lowest on negative emotion were chosen as the control songs for each participant. Manipulation checks showed that these songs were, on average, less nostalgic than the songs in the nostalgia conditions. However, control songs were not necessarily free of nostalgic associations, meaning there was likely overlap in reactions to the songs in nostalgic and control conditions. On the other hand, the songs were not always necessarily well-liked by participants. A procedure like Evans et al.'s (2022), which asked participants explicitly to provide songs that they liked but were not nostalgic, could more neatly divide songs into nostalgic and non-nostalgic (but still positive) songs.

Study 3 improved on some of these drawbacks but was still potentially limited by having participants only listen to each song for 1 min (see Michels-Ratliff & Ennis, 2016 for a similar procedure). This was one difference from Evans et al.'s (2022) study, which instructed participants to listen to their song in its entirety. Potentially, persons need to hear an entire song to experience all potential emotions and make all possible connections to it. As well, whereas the Zoom format with the RAs present might have helped to tighten experimental control, the tradeoff was that these sessions might have felt awkward and superficial for participants relative to an in-person and/or more private session (see Study 3 Discussion). There is another consideration regarding the sample of Study 3. Previous research has found that studies that require both members of the couple to participate are more likely to attract couples who are already higher on satisfaction and commitment and less likely to break up (Barton et al., 2020).

Therefore, an inherent limitation of Study 3 is not only that the sample is likely composed of highly committed couples, but there might be differences in satisfaction, etc., between the conditions that required a partner to attend and the condition that did not. Without pretest measures of relationship quality, I cannot rule out this possible confound. Finally, as discussed, the small sample sizes in Studies 2-3 significantly impeded my ability to draw confident conclusions about the findings, especially regarding potential moderation effects of attachment styles.

**Future Directions**

Despite some limitations, the current studies put forward numerous routes for future inquiry. First, in addition to attachment styles, there are other potential moderators uncovered by research that could alter people's reactions to relationship nostalgia. One such variable is self-continuity – a sense of connectedness between one's past, present, and future, which is beneficial for the self (e.g., Sedikides et al., 2015a). Iyer and Jetten (2011) have found that when people are nostalgic for a time that feels disjointed from their present self, they feel less excitement and interest in new opportunities. This pattern could translate into relationship nostalgia: If intimate partners view memories of their past as different from (and better than) their present, retrieving these memories could cause more harm than good. Making upward comparisons to other relationships can result in lower satisfaction and optimism for one's own relationship (Thai et al., 2020), so a similar effect could emerge after temporal comparisons to the past of a current relationship. Other moderators to explore in future work include personality variables. As an example, in nostalgia research, it has been suggested that people more prone to worrying experience worse well-being outcomes from nostalgia (Verplanken, 2012). Personality might be particularly important when studying musical inductions of nostalgia. For example, Liljeström et

al. (2012) found that people higher on neuroticism reported more negative emotions (e.g., anger, anxiety) and less pleasure after listening to music, with the opposite trend for people higher on extraversion, agreeableness, and openness to experience. Persons naturally higher on trait nostalgia are also more likely to experience stronger nostalgic reactions to sentimental music (Barrett et al., 2010), which could also suggest that dispositional nostalgia makes people more prone to the benefits of the emotion (Layous et al., 2021).

Future research should also build on the current findings with longitudinal designs. Although it is established that nostalgia promotes positivity in the short-term, little research has examined the long-term effects. The research that has been conducted on personal nostalgia has produced mixed results, suggesting that long-term effects of nostalgia depend on moderating variables such as nostalgia proneness (e.g., Layous et al., 2021), age (Turner & Stanley, 2021), and situational variables (Newman et al., 2020). The two longitudinal studies focusing on relationship nostalgia have also found mixed results. Mallory et al. (2018) found that relationship nostalgia proneness and relationship satisfaction were negatively correlated after 6 weeks with null results after another 6 weeks. In turn, Evans et al. (2022) found that, over the course of 2 weeks, relationship nostalgia predicted later relational benefits, including relationship satisfaction and commitment and a lower desire to leave one's partner. More research should be conducted, especially that which accounts for attachment style, to dissect the conditions under which nostalgia boosts relationship quality over time, particularly commitment and relationship survival. Research should also specifically use music as a nostalgic prime. Given that music is frequently encountered in real life and is a strong evoker of emotions (e.g., Juslin et al., 2008), it would be valuable to research what happens over time when couples are asked to listen to nostalgic songs together for multiple days.

Although the current studies aid understanding of the qualitative experience of nostalgic music listening, there is much more to be explored. One route for future work is to consider music genre preferences. Music genre preferences are thought to be indicative of people's personalities (Nave et al., 2018; Rentfrow & Gosling, 2006), so it might be especially important to account for genre preferences among couples to assess potential compatibility. That is, is listening to songs that are nostalgic *and* from a person's favorite genre more likely to impact relationship assessments? Do both members of the couple need to like the songs' genres, or is it enough for one member to like the genre and attach nostalgic value to the songs? Another direction for future work is to examine the effects of listening to live versus recorded music. Listening to live music is emotionally evocative, including the activation of nostalgia, and in some ways, it is more potent than listening to recorded music, regardless of whether people are familiar with the songs being played (Merrill et al., 2021; Swarbrick et al., 2019). It might be interesting to see if songs heard live would be a) more likely to be considered nostalgic by couples later on, b) more likely to evoke nostalgia later on, and c) more likely to boost feelings of satisfaction, commitment, or security in the relationship. There might even be differences among modes of listening to recorded music. For instance, participants in a study by Lepa and Tritakis (2016) felt more nostalgia and emotional arousal after listening to songs on vinyl than on CDs. Thus, the nostalgic qualities of songs could be compounded by other nostalgic experiences (e.g., listening to the song on vinyl or an iPod; listening to the song *at the location* where the couple first heard it) to produce different results. Two final music-related future directions are to examine the lyrical content and the musical features of couples' nostalgic songs. It could be interesting to analyze different emotional or social themes in the lyrics (e.g., identity; Batcho et

al., 2008) as well as any common musical features (e.g., tempo) that are common among partners' nostalgic songs.

This work could also be extended to other types of interpersonal relationships. For example, some research suggests that a sentimental longing for the past can be helpful for mothers of children with autism (Cox et al., 2022), and nostalgic reflection makes people more optimistic about overcoming a hypothetical problem with a close friend (Abeyta et al., 2015). There is even some evidence that nostalgia for past experiences on a sports team (e.g., spending time with teammates; competition) is linked to well-being (e.g., passion, intrinsic motivation for playing sports) and more sportsmanship attitudes (e.g., respect for officials and opponents; Swets et al., 2022a). However, in none of these studies was attachment style measured. The current work, though, suggests that this is necessary to understand individual differences in people's ability to glean the benefits of nostalgia. Perhaps, parents, friends, and athletes who are more avoidantly (and anxiously) attached might not experience the same positive outcomes. Another related question is whether nostalgic songs could benefit these relationships and groups as well. Future research could examine potential outcomes of listening to songs that have meaning for families, friendships, sports teams, and other types of relationships. And, does it matter whether they listen to the songs together or alone?

A potential use of the current findings is application in therapeutic settings. Elements of nostalgia have already been integrated into therapeutic approaches. For example, reminiscence therapy is an intervention that promotes psychological health in older adults through discussions about a client's life history, aided by photos, music, or other relevant items with meaning to the client, or even having nostalgic conversations with caregivers (Dodd et al., 2021; Woods et al., 2018). Moreover, relationship-specific nostalgia is captured in a marital therapeutic technique

called a *relationship history* from Gottman's (1999) model of marital therapy. During a relationship history, couples, along with a therapist, discuss significant milestones in their partnership (e.g., when they met, getting engaged). Recalling these relationship histories often elicits clients' positive mood and closeness between romantic partners, and it can be harnessed as an intervention to increase bonding. Nostalgia, measured more explicitly, has also been found to buffer the negative effects of conflict on commitment, providing further support for its use in counseling or therapeutic sessions (Swets et al., 2022c). Taken together, it appears that nostalgia could be quite beneficial in a therapeutic setting for romantic couples, although more research is needed to directly test this.

Moreover, music is already a common tool in rehabilitating psychological and behavioral concerns, ranging from stress reduction (de Witte et al., 2020) to substance use disorders (Hohmann et al., 2017) and dementia (Gaviola et al., 2020). The current work suggests that music that evokes memories of a pleasant, shared past could also be utilized in therapeutic sessions to promote bonding and closeness between couples. Of course, future work is needed to flesh out the details before implementing relationship nostalgic music in therapy, such as figuring out what the songs should be reminiscent of, who should select the songs, how often they should be listened to, and more.

**Conclusion**

Three studies examined the effects of relationship nostalgia inductions and the moderating effect of attachment style on relationship quality measures. More insecurely attached persons (especially the avoidantly attached) reported lower commitment after a nostalgia prime, either a writing task or music listening, consistent with attachment theory and previous nostalgia research. As well, relationship nostalgic songs were deemed more positive, familiar, and relevant

to persons, and they evoked a more collective and less negative focus. Finally, preliminary results suggested that listening to nostalgic songs *with* a romantic partner is not significantly better for relationships than listening to them alone, but both of these situations are more positive than listening to liked, familiar songs with a partner. The results demonstrate a need for follow-up research; however, they illustrate that the experience of listening to relationship nostalgic music is predominantly positive for the individual, but its effects on perceived relationship quality likely depend on one's preexisting attachment security.

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**Appendix A**

**Materials**

Time 1 Materials

Attachment (ECR-R; Fraley et al., 2000)

The statements below concern how you feel in emotionally intimate relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship (1 = *strongly disagree*; 7 = *strongly agree*):

1. I'm afraid that I will lose my partner's love.
2. I often worry that my partner will not want to stay with me.
3. I often worry that my partner doesn't really love me.
4. I worry that romantic partners won't care about me as much as I care about them.
5. I often wish that my partner's feelings for me were as strong as my feelings for him or her.
6. I worry a lot about my relationships.
7. When my partner is out of sight, I worry that he or she might become interested in someone else.
8. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.
9. I rarely worry about my partner leaving me.
10. My romantic partner makes me doubt myself.
11. I do not often worry about being abandoned.
12. I find that my partner(s) don't want to get as close as I would like.
13. Sometimes romantic partners change their feelings about me for no apparent reason.
14. My desire to be very close sometimes scares people away.
15. I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.
16. It makes me mad that I don't get the affection and support I need from my partner.
17. I worry that I won't measure up to other people.
18. My partner only seems to notice me when I'm angry.
19. I prefer not to show a partner how I feel deep down.
20. I feel comfortable sharing my private thoughts and feelings with my partner.
21. I find it difficult to allow myself to depend on romantic partners.
22. I am very comfortable being close to romantic partners.
23. I don't feel comfortable opening up to romantic partners.
24. I prefer not to be too close to romantic partners.
25. I get uncomfortable when a romantic partner wants to be very close.
26. I find it relatively easy to get close to my partner.

27. It's not difficult for me to get close to my partner.
28. I usually discuss my problems and concerns with my partner.
29. It helps to turn to my romantic partner in times of need.
30. I tell my partner just about everything.
31. I talk things over with my partner.
32. I am nervous when partners get too close to me.
33. I feel comfortable depending on romantic partners.
34. I find it easy to depend on romantic partners.
35. It's easy for me to be affectionate with my partner.
36. My partner really understands me and my needs.

## The Adaptive Functions of Music Listening Scale (Groarke & Hogan, 2018)

Please indicate the degree to which you agree with each of the following statements (1 = *strongly disagree*; 5 = *strongly agree*):

Strong emotional experiences
1. When listening to music I feel intense emotions
2. When listening to music I feel a range of emotions
3. When listening to music I feel emotions deeply
4. When listening to music I feel a variety of emotions simultaneously
5. When listening to music I feel a mixture of many different emotions
6. I feel strong emotions when listening to music

Reminiscence
1. Listening to music does not bring back memories for me (R)
2. When listening to music I reminisce about the past
3. When listening to music I remember my past
4. Listening to music reminds me of people from my past

Loneliness regulation
1. I feel less lonely when I listen to music
2. Listening to music reduces feelings of loneliness
3. Listening to music makes me feel less alone

Identity
1. Music listening is a fundamental part of who I am
2. The music I listen to expresses who I am as a person
3. Listening to music has helped me discover who I am
4. Listening to music has helped me to understand myself

Musical Importance (Bonneville-Roussy et al., 2013)

Please choose which statement from this list best reflects your attitude toward music:

- Music means a lot to me, and is a passion of mine (5)
- Music is important to me, but not necessarily more important than other hobbies or interests (4)
- I like music, but it does not feature heavily in my life (3)
- Music is no longer as important as it used to be to me (2)
- Music has no particular interest for me (1)


Prompt for participants to provide relationship nostalgic songs:

According to the Oxford Dictionary, *nostalgia* is defined as "a sentimental longing for the past." Please consider your relationship with your current romantic partner.

Now, in the space below, list five songs that make you feel *nostalgic about your relationship.* Please include the song title and the artist. The order does not matter.

Prompt for participants in the control songs conditions:

1. How familiar are you with each of the following songs?
2. How much **like** each of the following songs?
3. How much **positive emotion** does each of these songs make you feel?
4. How much **negative emotion** does each of these songs make you feel?

    1 = *not at all/none at all;* 7 = *very much*

- "Easy on Me" by Adele
- "Heat Waves" by Glass Animals
- "good 4 u" by Olivia Rodrigo
- "INDUSTRY BABY" by Lil Nas X and Jack Harlow
- "To Be Loved by You" by Parker McCollum
- "You Should Probably Leave" by Chris Stapleton
- "Lucid Dreams" by Juice WRLD
- "transparent soul" by WILLOW and Travis Barker
- "Be Sweet" by Japanese Breakfast
- "fleabag" by YUNGBLUD

Time 2 Materials

Questions asked for each song (1 = *very low/none*; 7 = *very high*):

1. How nostalgic do you find this song?
2. How familiar are you with this song?
3. How much do you like this song?
4. How arousing do you find this song?
5. How meaningful do you find this song?
6. How much positive emotion does this song make you feel?
7. How much negative emotion does this song make you feel?
8. How much autobiographical connection do you feel with this song? For example, does it remind you of people, places, or things that happened to you?

9. I associate this song with people (past or present) (select all that apply):
    a. Friend(s)
    b. Romantic Partner(s)
    c. Parent(s)
    d. Sibling(s)
    e. No One
    f. Other (please list): _____

10. I associate this song with a certain time or place (select all that apply):
    a. School
    b. Work
    c. Vacation
    d. Specific Event
    e. Specific City/ Location
    f. None
    g. Other (please list): _____

11. I associate this song with a certain *aspect of my romantic relationship* (select all that apply [based on Mallory et al., 2018]):
    a. The places I went with my partner
    b. The music we listened to together
    c. Quality time we spent together
    d. The feelings we had when we were together
    e. Feeling safe and secure when we were together
    f. The excitement at the start of the relationship
    g. The intimacy we shared
    h. TV shows or movies we watched together
    i. Time spent at home together
    j. Times my partner made me laugh
    k. First times kissing my partner
    l. The activities we did together
    m. Sexual experiences we had together

      n. Times my partner comforted me
      o. Learning new things about my partner
      p. Times I spent talking to my partner
      q. The first time my partner and I met

## Satisfaction (Rusbult et al., 1998)

Please indicate the degree to which you agree with each of the following statements regarding your current relationship (0 = *Do not agree at all*; 8 = *Agree completely*):

1. I feel satisfied with our relationship
2. My relationship is much better than others' relationships.
3. My relationship is close to ideal.
4. Our relationship makes me very happy.
5. Our relationship does a good job of fulfilling my needs for intimacy, companionship, etc.

## Commitment (Rusbult et al., 1998)

Please indicate the degree to which you agree with each of the following statements regarding your current relationship (0 = *Do not agree at all*; 8 = *Agree completely*):

1. I want our relationship to last for a very long time.
2. I am committed to maintaining my relationship with my partner.
3. I would not feel very upset if our relationship were to end in the near future.
4. It is likely that I will date someone other than my partner within the next year.
5. I feel very attached to our relationship-very strongly linked to my partner.
6. I want our relationship to last forever.
7. I am oriented toward the long-term future of my relationship (for example, I imagine being with my partner several years from now).

## Oneness (Cialdini et al., 1997)

To what extent would you use the term "WE" to characterize your relationship with your partner?
(0 = *not at all*; 100 = *very much so*)

## Relational Uncertainty Scale (RUS; Knobloch & Solomon, 1999 – added for Study 3)

Based on *how you feel right now*, how *certain* do you feel about (1 = *Completely uncertain;* 6 = *Completely certain*)...

1. Your feelings for your partner?
2. Whether this relationship will last?
3. The quality of this relationship?

4. How much you like your partner?
5. How your relationship is going?
6. The future of your relationship?

State Adult Attachment Measure (SAAM; Gillath et al., 2009 – added for Study 3)

Please respond to each statement by indicating how much you agree or disagree, based on *your current feelings* - how you feel *right now* (1 = *Disagree strongly;* 7 = *Agree strongly*):

1. I feel loved.
2. I feel like I can rely on my partner.
3. I feel secure and close to my partner.
4. If something went wrong right now, I feel like I could depend on my partner.
5. I feel relaxed knowing that my partner is there for me right now.
6. I feel a strong need to be unconditionally loved right now.
7. I want to share my feelings with my partner.
8. I want to talk with my partner about things that are worrying me.
9. I wish my partner would tell me that they really love me.
10. I really need my partner's emotional support.
11. If my partner tried getting close to me, I would keep my distance.
12. I'm afraid my partner will want to get too close to me.
13. I feel alone and yet don't feel like getting close to my partner.
14. I have mixed feelings about being close to my partner.
15. I feel like I am loved, but I don't really care.

VITA

Julie Ann Swets grew up in San Angelo, Texas. She went on to attend Southwestern University in Georgetown, Texas, where she played on the women's tennis team and earned her BA in Psychology in 2018. After graduating from Southwestern, Julie attended Texas Christian University (TCU) to study Experimental Social Psychology under the guidance of Dr. Cathy Cox. At TCU, Julie earned her MS in 2020 and her PhD in 2022. Julie was hired as a Lecturer in Psychology at Eastern Washington University at Bellevue College in Bellevue, Washington, after completing her degree at TCU.

ABSTRACT

EXAMINING THE INTERACTIVE EFFECTS OF ATTACHMENT STYLE AND
RELATIONSHIP NOSTALGIA ON RELATIONSHIP QUALITY

by Julie Ann Swets, MS, 2020
Department of Psychology
Texas Christian University

Dissertation Advisor: Dr. Cathy Cox, Professor of Psychology

Nostalgia, a sentimental longing for the past, is beneficial for romantic relationship well-being.
The opposite is true, however, for more avoidantly attached persons. Nonetheless, no research
has examined how attachment styles interact with *relationship-specific* nostalgic primes to affect
relationship quality. To address this gap, participants in Study 1 completed a relationship
nostalgia (or control) writing task. Results showed that persons who scored high on attachment
avoidance and low on attachment anxiety reported lower partner commitment when they were
primed with relationship nostalgia. Studies 2 and 3 built on this finding by priming relationship
nostalgia through music. In Study 2, highly avoidantly and anxiously attached participants
reported lower partner commitment when they listened to relationship nostalgic songs, relative to
control songs. Finally, in Study 3, participants either listened to nostalgic songs alone, nostalgic
songs with their partner, or control songs with their partner. In the preliminary results, the
nostalgia-together and nostalgia-alone conditions produced similar relationship quality outcomes
(e.g., state attachment security), but both scored higher than the control-together condition,
especially when measuring relationship *certainty*. Across the three studies, the data suggest that a
sentimental longing for the past of a romantic relationship – whether experienced through
writing, listening to nostalgic music alone, or listening to nostalgic music with a partner – is a
predominantly positive experience, but not for the avoidantly attached.