

SHARED NOSTAGLIA: MOVING FROM AN INDIVIDUAL TO AN INTERPERSONAL
APPROACH TO THE STUDY OF A SOCIAL EMOTION

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ABSTRACT

Nostalgia is a common, bittersweet experience described as a sentimental longing for the past. Past research has found nostalgia to be a social emotion that increases feelings of social connectedness and motivates social engagement. Despite the prevalence of people reminiscing in conversations, few studies have studied nostalgia in a social setting. Thus, this research examined an uncharted area of nostalgia: shared nostalgia. The current work defines shared nostalgia as an experience in which nostalgia is transmitted to at least one other person or exchanged between two or more people. Study 1 investigated the prevalence and affective nature of shared nostalgia and found it is a bittersweet and common experience, even more so than reflecting on nostalgic memories individually. Based on the findings of Study 1, Studies 2-4 examined the potential social connectedness function of collaborative nostalgia, a type of shared nostalgia. Study 2 found that the desire for collaborative nostalgia is associated with high emotional closeness, emotional distance, and temporal distance to social relationships, suggesting it generally concerns a desire to connect with others. Indeed, the relationship between emotional distance and the desire for collaborative nostalgia was mediated by a motivation to connect. Studies 3 and 4 experimentally tested the relationship between collaborative nostalgia and temporal and emotional closeness. Although the manipulations failed to support the presented hypotheses, exploratory analyses provide interesting insights into shared nostalgia. In all, shared nostalgia is a crucial addition to the nostalgia literature that warrants further investigation.

DEDICATION

To Mom and Dad, for their unrelenting support.

To Joey, for his encouragement and patience.

To Anna, for always being one phone call away.

To Clay, for being an inspiring mentor.

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INTRODUCTION

A growing body of research identifies nostalgia, a sentimental longing for the past, as a unique, universal, and frequent social cognitive emotional experience. Nostalgia involves both positive and negative affect, tends to follow a redemptive sequence in which negative feelings give way to positive ones, predominantly features the self and personally cherished life events (i.e., meaningful memories focused on the self-story), and is regularly and similarly experienced across age, gender, and cultural groups (Routledge, 2015; Wildschut, Sedikides, Arndt, & Routledge, 2006). A growing body of research documents that nostalgia serves a number of psychological and motivational functions. However, to date, much of the research on nostalgia has focused on how people experience it individually. The present research introduces the concept of shared nostalgia and presents a series of studies examining its nature and potential function to maintain social relationships.

The Social Nature of Nostalgia

Nostalgia is highly social, as most nostalgic memories involve close relationships (Wildschut et al., 2006; Wildschut, Sedikides, & Robertson, 2018), and increases a sense of belonging, which helps psychologically counter threats to belongingness (Cox, Kersten, Routledge, Brown, & Enkevort, 2015; Reid, Green, Wildschut, & Sedikides, 2015; Wildschut, Sedikides, & Robertson, 2018; Wulf, Bowman, Velez, & Breuer, 2018). Zhou, Sedikides, Wildschut, and Gao (2008; Study 2) tested nostalgia's belongingness properties experimentally. Chinese undergraduate students were either placed in a high-loneliness or low-loneliness condition using a manipulated loneliness scale. Specifically, in both conditions, participants rated their agreement with items assessing feelings of loneliness. However, in the high loneliness condition, the items were worded in a way to increase endorsement of them (e.g., "I sometimes

feel alone”) whereas in the low-loneliness condition, items were worded to limit endorsement (e.g., “I always feel alone”). In other words, those in the high-loneliness condition were more likely to agree with the items than those in the low-loneliness condition, which increased the believability of subsequent feedback. All participants received fake feedback on their results. Those in the high-loneliness condition were told that their scores indicated they were lonelier than the average undergraduate, whereas those in the low-loneliness condition were told they scored low on loneliness. A manipulation check showed that those in the high-loneliness condition did, indeed, feel significantly lonelier than those in the low-loneliness condition. From there, the researchers measured how nostalgic the participants felt, as well as their perceived level of social support. Those in the high-loneliness condition experienced more nostalgia but perceived less social support. However, when statistically controlling for nostalgia, the effect of the loneliness condition decreased as perceived social support became stronger, suggesting that nostalgia down-regulates or reduces the negative effects of loneliness. In another study (Study 3), Zhou and colleagues (2008) found more direct evidence of this social regulatory function of nostalgia. Specifically, participants instructed to think of and describe a nostalgic event, compared to an ordinary event, perceived more social support. In all, these findings suggest that loneliness triggers nostalgia, which then increases feelings of connectedness. This idea was further experimentally replicated in a community sample (Zhou et al., 2008; Study 4), as well as by Wildschut, Sedikides, Routledge, Arndt, and Cordaro (2010) and Seehusen et al. (2013).

Furthermore, social connectedness is an important mediator between nostalgia and many of the other documented positive effects of nostalgia, such as meaning in life (Routledge et al., 2011), self-continuity (Sedikides et al., 2016), self-esteem, inspiration, and goal pursuit (Stephan

et al., 2015). Thus, reminders of loved ones through nostalgic memories holds powerful implications.

Not only does nostalgia promote perceptions of social connectedness, but it can also push people toward social engagement. One theory posits that our motivation to engage or disengage lies in the activation of two trait-like regulatory systems: behavioral inhibition system (BIS) and behavioral activation/approach system (BAS). BIS is described as an avoidance motivation, such that individuals predisposed to BIS are hyper responsive to negative experiences and emotions, whereas BAS is considered an approach motivation, such that individuals predisposed to BAS are reactive to rewards, goals, and positive emotions (Carver & White, 1994; Cooper, Shapiro, & Powers, 1998; Stephan et al., 2014). These motivational systems hold consequences for behavior (Carver, 2006; Sherman, Mann, & Updegraff, 2006), perception (Balcetis, 2016), and well-being (Elliot, Gable, & Mapes, 2006).

In electroencephalogram (EEG) examinations, approach motivation is associated with left-frontal asymmetry, whereas avoidance motivation is correlated with right-frontal asymmetry (Harmon-Jones & Gable, 2018; Sutton & Davidson, 1997). Tullett, Wildschut, Sedikides, and Inzlicht (2015) reported that those higher in nostalgia proneness exhibited greater right-frontal asymmetry. Considering right-frontal asymmetry is also related to increased negative affect, this finding is in line with the reasoning that negative experiences elicit nostalgia (e.g., Seehausen et al., 2013).

While most research has established approach and avoidance motivation as having trait-like qualities, more recent evidence suggests that these processes can be influenced at a state level and that nostalgia is one cognitive-emotional experience that influences these processes. For instance, Stephan et al (2014) found support for a regulatory model where avoidance

motivation triggers nostalgia, which then activates approach motivation. A recent study found additional neuroscientific support for this regulatory model; those that engaged in nostalgic reverie, compared to a control condition, had a reduced error related negativity (ERN), suggesting that nostalgia diminished defensiveness, or avoidance motivation (Bocincova, Nelson, Johnson, & Routledge, 2019). Taking this model further, Abeyta, Routledge, and Juhl (2015) examined nostalgia's effects on goal pursuit across seven studies and found that nostalgia strengthened participants' desire to connect with others. Specifically, nostalgia raises social-efficacy (i.e., feelings of social competence), which promotes social goal endeavors. Like other research on adverse states (e.g., loneliness; Zhou et al., 2008), the researchers also find that the possibility of not achieving social goals triggers nostalgia. In another set of studies, participants were informed that they would have a conversation with another participant (whom the experimenter left to retrieve). As the experimenter left, they instructed the participant to place two chairs together for the conversation. Those in the nostalgia condition tended to place the chairs closer together than did the control condition. The proximity of the chairs provides further support that nostalgia may drive a desire to connect (Stephan et al., 2014). Taken together, these findings suggest that nostalgia promotes social connection.

Because nostalgic memories largely focus on close relationships and tend to increase both feelings of social connectedness and the pursuit of social goals, researchers have begun examining how attachment dimensions relate to nostalgia and the social effects of nostalgia. Thus far, there is little evidence that anxious attachment is implicated in the experience of nostalgia or impact of nostalgia on social variables; but attachment avoidance is an important moderator of the content of nostalgic memories and nostalgia's effects on social connectedness and motivation (Abeyta et al., 2015; Wildschut et al., 2010). Those who score high, relative to

low, on attachment avoidance are less likely to discuss experiencing intimate feelings (e.g., trust, comfort) in their social relationships (e.g., friends, family) when describing nostalgic memories (Abeyta et al., 2015).

A contributor to this may be the negative correlation between brain structures involved in memory retrieval and avoidant attachment (Mikulincer & Orbach, 1995; Zhang et al., 2018). When participants engage in nostalgic reflection, those high, compared to low, on attachment-related avoidance report less relationship desire and satisfaction (Juhl, Sand, & Routledge, 2012). Similarly, individuals who score high on attachment-related avoidance are less likely to combat loneliness with nostalgic recollection (Wildschut et al., 2010). High attachment-related avoidance also seems to decrease social approach motivation in response to nostalgia, such that those individuals are not as willing to connect with others as those with low attachment-related avoidance (Abeyta, Nelson, & Routledge, 2019).

Thus, nostalgia may not be a successful social motivator for all individuals; nostalgia appears to exacerbate the avoidance tendencies for those with a high attachment avoidance. Higher levels of attachment avoidance are, however, positively related to mentions of personal success in nostalgic memories (Abeyta, Routledge, Roylance, Wildschut, & Sedikides, 2014). Thus, feelings of self-sufficiency rather than support from others, are prominently featured in the nostalgic experiences of individuals who score high in attachment avoidance.

Despite much of the research showing that social relationships are central to nostalgia, almost no work has examined nostalgia in a social setting, that is, the ways in which nostalgia is shared between individuals.

Shared Nostalgia

To date, most published nostalgic work has focused on the individual's personally nostalgic memories and how nostalgia influences individual psychological states and motivations, even when these states and motives are ultimately focused on social connection. Given the highly social nature of nostalgia (Wildschut et al., 2006), it is likely to be implicated during social experiences. In fact, after the age of five, autobiographical memories, including experiences likely to have nostalgic qualities, are a popular topic of everyday conversation (Baron & Bluck, 2009; Fivush, 2008). Pasupathi and Carstensen (2003) found that participants of diverse ages and ethnicities reported social reminiscing in 20 percent of all social circumstances. Furthermore, when remembering positive events in conversations, the main purpose seems to be reminiscing (45 percent), compared to offering information (41 percent), assessing an event (41 percent), reconstruction of event (27 percent), and explaining behavior (22 percent; Pasupathi, Lucas, & Coombs, 2002). Participants in another study reported that 75 percent of their conversations included autobiographical memories (Beike, Brandon, & Cole, 2016). All in all, a fair number of conversations, somewhere between 20 to 75 percent, involve the retelling of memories. Given such evidence suggesting that nostalgic interactions are commonplace, it is crucial to address the gap in the literature on the nature and potential benefits of shared nostalgia.

There are distinctions between nostalgia and reminiscence that should be acknowledged. The process of reminiscing is simply to think back to past positive events; however, the process of nostalgia involves deeper reflection on significant events in one's life (Sedikides & Wildschut, 2018). Despite the differences, we can glean important information about nostalgia from studies on social reminiscing because there is certainly overlap within the two concepts (i.e., nostalgia is a type of reminiscence).

What Is Shared Nostalgia?

As previously noted, much of the existing research on the psychology of nostalgia focuses on the intrapsychic experience of nostalgic feelings, even though these feelings frequently orient individuals toward other people. Nostalgia, however, can also be conceptualized as an experience that individuals share with one another in an interpersonal setting. Shared nostalgia is defined here as an experience in which nostalgia is transmitted to at least one other person or exchanged between two or more people.

The experience of sharing nostalgia with or between people can come in several forms. One such variant is an individual sharing a personally nostalgic memory with at least one other person, whether it be a stranger, acquaintance, or loved one, that was not originally present for the nostalgic memory. An example of this may be someone discussing a nostalgic memory from their childhood with a friend they met in college. Another form of shared nostalgia could be cultural, or collective. Collective nostalgia refers to the “sentimental longing for events that occurred as part of a group with which one identifies” (pp. 445, Dimitriadou, Maciejovsky, Wildschut, & Sedikides, 2019). As an example, Americans may be nostalgic for monumental events, such as the video of astronaut Neil Armstrong first walking on the moon (Dimitriadou et al., 2019). Additionally, many individuals share the same experience of watching television shows or playing games (e.g., Star Wars, Pokémon, etc.) as a child and may hold nostalgic memories related to it. As a collective, the individuals can reflect on the shared experience. The last form of shared nostalgia refers to a discussion between two or more individuals that all share that nostalgic memory (i.e., collaborative nostalgia). For instance, if friends graduated from the same high school and then reflected on that nostalgic high school experiences together years

later, they would be engaging in collaborative nostalgia. The current research focuses on the experience of collaborative nostalgia.

Does Shared Nostalgia Help Maintain Social Connections?

An individual might share their personally nostalgic memories with partners, family members, friends, or acquaintances. One potential function of this act of self-disclosure (i.e., sharing personal information) is to strengthen social connections (Alea & Bluck, 2003; Beike, Cole, & Merrick, 2017; Brandon, Beike, & Cole, 2017; Utz, 2015). The research on self-disclosure goals concurs with this idea; people share with familiar others to progress the relationship (Bazarova & Choi, 2014; Choi & Bazarova, 2015). This occurs both in person and, to a lesser extent, on social media websites (e.g., Facebook; Bazarova & Choi, 2014; Hollenbaugh & Ferris, 2015; Sheldon, 2013; Special & Li-Barber, 2012).

For instance, Beike and colleagues (2016; Study 4) showed that close relationships facilitate opportunities for sharing autobiographical memories. Dyads of participants engaged in a humorous (throwing a Nerf ball between them while one was blindfolded and the other had to talk with a straw in their mouth) or control task (throwing a Nerf ball between them) and then held a 7-minute conversation with one another. The conversations were coded for specific autobiographical memories and general self-knowledge. Those in the humorous task condition discussed more autobiographical memories, as compared to general self-knowledge. In addition, participants performing the humorous task, as opposed to the control task, felt closer to their partner.

The researchers posit that those performing a humorous task formed a bond with their partner through their shared experience (Pinel, Long, Landau, Alexander, & Pyszczynski, 2006). This bonding task, then, opened the door for personal, intimate conversations. Thus, it seems that

an established and trusted connection is a prerequisite for a discussion of autobiographical memories. A trusted person is less likely to reject the individual after sharing personally meaningful information (Beike et al., 2016). A cyclical process may occur in which an individual feels at ease sharing nostalgic memories with a friend or loved one, intensifying the intimacy between the individuals. This, then, raises the probability of the individual sharing nostalgic memories with that friend or loved one in the future.

Moreover, Alea and Bluck (2007) experimentally tested the effects of memory and intimacy by asking participants to describe memories from a positive vacation with their significant other and from a given fictional vignette. The authors reported a main effect of one's personal memory; reflecting on the vacation with their significant other (compared to the vignette) promoted feelings of warmth. However, this effect became marginal ($p = 0.06$) when accounting for changes in positive affect; thus, affect is an important construct to consider in this relationship. Examinations of the effect of condition on closeness revealed a significant interaction, such that women, but not men, showed an increase of closeness in response to reminiscing on a vacation compared to the vignette. This study highlights the importance of various factors, such as positive affect and gender, in the relationship between nostalgic reverie and outcomes of interest.

Thus far, this review has only considered research in which one individual describes a personally meaningful experience to another person. Alternatively, partners could reminisce on a nostalgic memory experienced by both individuals. Though this possibility has not been examined within the nostalgia literature, the reminisce literature refers to this as social reminiscing (Pasupathi & Carstensen, 2003). In social reminiscence, individuals are connected through a sense of shared reality for that past event. Shared reality can be defined as the

consistency between two peoples' sentiments toward an experience (Kopietz, Hellmann, Higgins, & Echterhoff, 2010). A sense of a shared reality is important to feel connected with others (Condon, Ritchie, & Igou, 2015). By actively recounting memories, individuals can foster intimacy, and therefore, ensure maintenance of established relationships (Alea & Vick, 2010; Norrick, 1997). The reflection on memories together ensures the group feels as if they are one unit with shared values and a close bond (Norrick, 1997), promoting a sense of intimacy.

Indeed, satisfied, compared to distressed, couples show more positive interactions and physical contact when discussing shared memories (Osgarby & Halford, 2013). Additionally, another study had dementia patients speak with their significant others about major, possibly nostalgic, events in their relationship across five sessions. During the recollections, some couples demonstrated physical touch (e.g., holding hands, arms around each other, kissing; Ingersoll-Dayton et al., 2013). Thus, remembering important events in one's relationship has the potential to foster physical closeness.

Social reminiscing predicts emotional intimacy, as well. In particular, the sense of intimacy can subtly span to how couples refer to each other as a unit. The more the two individuals feel their self-identities ("I") overlap into "We", the closer the couple would likely be (Beike et al., 2017). As such, the usage of "we", as opposed to "I" is related to higher relationship satisfaction (Alea, Singer, & Labunko, 2015). Married couples were more likely to use "we" in discussions of a salient, impactful memory of their relationship if the memory was positive, as compared to if it was negative. There were no differences, however, for memory valence in usage of "I". Increases in "we" and "partner" usage were apparent in reminiscence therapy for couples struggling with dementia, too (Ingersoll-Dayton et al., 2013). Thus, it

appears that reflecting on personally meaningful events concerning a partner is related to intimacy levels, and thus, the relationship maintenance overall.

In addition to intimacy levels, social reminiscing is also related to relationship satisfaction. For example, Alea and Vick (2010) found that a more thorough recollection of how the couple first met predicted marital satisfaction. In particular, the vividness of the memory predicted 4 percent of variance in marital satisfaction (when controlling for age and gender), positivity of the event explained 18 percent of variance, emotional intensity predicted 4 percent of variance, and rehearsal of the memory predicted 5 percent of variance. Thus, the extent to which the couple preserves memories together predicts, albeit modestly, their perceptions of the relationship. Furthermore, although there were no differences between groups in amount of laughter and positivity, couples who recalled memories in which they laughed together reported greater relationship satisfaction than couples who recalled memories with independent laughter, shared positive memories, and independent positive memories (Alea et al., 2015). The authors argue that laughing together about events is a form of shared reality (i.e., “This is funny”), which then buttresses the closeness between the couple (Alea et al., 2015; Bazzini, Stack, Martincin, & Davis, 2007; Beike et al., 2016). Philippe, Koestner, and Lokes (2013) reported evidence that the relationship between memories and relationship satisfaction is bidirectional. Partners that remained together from Time 1 to Time 2 (one year later) showed increases in the extent to which a memory with their partner was viewed as meeting the psychological needs of autonomy, competence, and relatedness. Further, memories that met satisfaction needs at Time 1 predicted relationship quality at Time 2. This suggests that over time, significant memories may contribute to relationship satisfaction, and cyclically, that relationship satisfaction works to solidify those

memories. Indeed, long-term couples remember more details of relationship memories than short-term couples (Alea & Bluck, 2003).

To date, one study has examined relationship outcomes in the context of nostalgic reflection. In their first experiment, Mallory, Spencer, Kimmes, and Pollitt (2018) developed a measure of romantic nostalgia and investigated its association with relationship satisfaction. Their romantic nostalgia scale asked individuals to report the extent to which they miss aspects of their relationship (e.g., “times when this person made you laugh”, “places that you went together”, “learning new things about each other”; pp. 566). Therefore, rather than identifying the participants’ general nostalgia proneness (and the outcomes for their relationship associated with it; Juhl et al., 2012), the authors specifically identified the participants’ trait relationship nostalgia. Importantly, they found that romantic nostalgia was distinct from general nostalgia. Additionally, the authors reported a significant positive correlation between romantic nostalgia and relationship satisfaction.

In Study 2, Mallory and colleagues (2018) assessed this relationship longitudinally and found that initial relationship nostalgia (Wave 1) was negatively associated with relationship satisfaction six weeks later (Wave 2). Further, relationship nostalgia six weeks into the study (Wave 2) did not correlate with relationship satisfaction twelve weeks into the study (Wave 3). However, concurrent assessments of relationship nostalgia and relationship satisfaction at Wave 3 revealed a negative association. As negative emotions tend to trigger nostalgia (e.g., Routledge Wildschut, Sedikides, Juhl, & Arndt, 2012), these results could suggest that dissatisfied couples are engaging in nostalgic reflection to mitigate those feelings; however, the Mallory et al. (2018) findings cannot definitively conclude that without further experimental evidence. Moreover, the phrasing of the romantic nostalgia proneness measure could be problematic, as it asks

participants to reflect on the extent to which they “miss learning new things about each other”, for instance. Agreement with items such as this could assess crucial gaps in the relationship, rather than sentimental reflections. Further research should explore romantic nostalgia as an interaction between the couple.

Collectively, the research suggests that reflection on important memories with another is associated with intimacy and relationship satisfaction - two key factors in close relationship maintenance. While the aforementioned studies provide clues for the nature of shared nostalgia, no literature investigated the dynamics of nostalgic reverie between two individuals at one time. This gap in the literature is critical, given that autobiographical memories are often discussed in social settings (Baron & Bluck, 2009; Fivush, 2008; Pasupathi & Carstensen, 2003). Although not specifically on nostalgia, Beike and colleagues (2017) did examine “we” vs “me” autobiographical memories. In the first study, participants self-reported their most recent conversation and classified the conversation as including “We memories” (i.e., both parties were present in it) or “Me memories” (i.e., personal autobiographical memories). Other information, such as feelings of closeness, were collected, as well. Consistent with the proposed function of collaborative nostalgia, participants who spoke of “specific We memories”, as opposed to “general We memories” (e.g., We like that restaurant), “specific Me memories”, or “general Me memories” (e.g., I like that restaurant), reported greater closeness and talked more frequently.

A second study explored the effect of frequency of communication on sharing specific “We memories” and level of closeness with one of their parents. Over the course of a week, participants were asked to either increase their contact with the parent or to track how often they communicated with their parent. This information was provided in daily surveys. After a week had passed, participants then answered questions regarding valence of the conversations and

feelings of closeness toward the parent. Results, again, showed that “specific We memories”, compared to “specific Me memories”, increased closeness. This relationship is bidirectional, such that increased closeness boosted frequency of “specific We memories”, consistent with Beike et al. (2016). Altogether, the findings support the claim that collaborative nostalgia works to maintain bonds between individuals.

The Current Research

In the present investigation, four studies tested the proposal that shared nostalgia, and in particular collaborative nostalgia, functions to maintain social connections. First, Study 1 explored the nature of shared nostalgia. How often do people engage in shared nostalgia? What affective experiences are associated with shared nostalgia? Study 2 utilized a correlational design to examine the relationship between the desire for collaborative nostalgia, motivation to connect, state nostalgia and emotional distance, emotional closeness, and temporal closeness. If collaborative nostalgia helps maintain relationships, then the more individuals are out of touch with their social connections or are feeling disconnected from them, the more they should desire collaborative nostalgia. Studies 3 and 4 examined this relationship experimentally. In Study 3, emotional distance was manipulated (i.e., thinking about a time you felt disconnected from the person) and motivation to connect and desire for collaborative nostalgia were measured. It was hypothesized that participants prompted to recall an instance of disconnection, compared to the control, would report a greater desire for collaborative nostalgia and motivation to connect. In Study 4, nostalgia was manipulated (3 levels: collaborative nostalgic memory vs personal nostalgic memory vs ordinary event) and indicators of social connectedness (i.e., intimacy, inclusion of self in other) were measured. It was hypothesized that participants in the collaborative nostalgia condition would report the highest levels of felt intimacy and the greatest

overlap between self and other. In sum, these studies tested the proposal that a particular type of shared nostalgia (i.e., collaborative nostalgia) helps to maintain social ties. The Institutional Review Board approved the following studies.

STUDY 1

The purpose of this study was to determine the nature of shared nostalgia, given that no previous work has examined it. Specifically, this study examined the prevalence and emotions experienced during two forms of shared nostalgia: personal shared nostalgia (i.e., sharing a personally nostalgic memory with someone who did not experience it themselves) and collaborative nostalgia (i.e., discussing a nostalgic memory with an individual, or individuals, who experienced it, as well). Additionally, attachment style was measured to assess if previous findings on attachment style and nostalgia would replicate in these forms of shared nostalgia (e.g., Wildschut et al., 2010). No specific hypotheses were made for the descriptive analyses; however, it was predicted that avoidance-related attachment, but not anxious-related attachment, would be negatively related to the frequency and importance of sharing both forms of shared nostalgia considered in the study.

Method

Participants and Procedure

The G*Power analysis, based on the effect size from a relevant study (Wildschut et al., 2010), anticipated a small to medium effect size ($d = .22$), power of .80, and $p = .05$, indicating the recruitment of at least 123 participants to sufficiently detect effects. 129 participants were recruited (86 females, $M_{\text{age}} = 19.4$, $SD_{\text{age}} = 1.61$) from a Midwestern university's psychology participant pool, as well as students from select psychology courses. Participants received extra credit points in their respective psychology course in exchange for their participation. Most participants identified as White/non-Hispanic (86%); however, participants also identified as African American or Black (5.4%), Asian American or Asian (3.1%), American Indian or Alaska Native (2.3%), Hispanic/Latino (1.6%), and as Other (1.6%). Participants completed all materials

through Qualtrics in the following order; however, the items considering personal shared nostalgia and collaborative nostalgia were counterbalanced to avoid order effects.

Measures

Nostalgic experience. Participants received a definition of nostalgia and responded to an open-ended item asking the participants to report a nostalgic memory they discussed with others. Then, participants were asked whether the individual they discussed the nostalgic memory with was included in the memory or not, and if so, how central the other individual was in the memory (1 = *Not at all*, 5 = *A great deal*). The purpose of these items was to determine the spontaneous instances of sharing personally nostalgic memories or collaborative memories with others. See Appendix A.

Frequency of shared nostalgia. Participants self-reported which experience occurs most often: “I tell a nostalgic memory to someone that wasn’t in the memory”, “I talk about a nostalgic memory with someone that was in the memory”, or “I reflect on a nostalgic memory by myself”. On a subsequent page of the study, participants responded to items assessing how often they share personally nostalgic and collaborative nostalgic memories with loved ones, acquaintances, and strangers. See Appendices B and C.

Personal shared nostalgia. Participants self-reported, and then selected from a list, the emotions experienced when sharing a personally nostalgic memory with another person (see Appendix C; 1 = *Never*, 5 = *Always*). When self-reporting, participants could list as many emotions as they desired. Based on Cheung et al.’s (2019) exploratory factor analysis of these emotions, the listed affective responses fall into three groups: bittersweet emotions (e.g., “bittersweet or mixed feelings”; $\alpha = .82$, $M = 3.36$, $SD = 0.85$), positive affect (e.g., “happy”; $\alpha = .87$, $M = 3.36$, $SD = 0.77$), and negative affect (e.g., “sad”; $\alpha = .75$, $M = 2.31$, $SD = 0.65$).

Finally, participants rated the extent to which they were prone to sharing personally nostalgic memories with others, as well as how significant it is to them. These items were adapted from Cheung et al. (2019), which gathered descriptive data on a specific form of nostalgia (i.e., anticipated nostalgia).

Collaborative nostalgia. The emotion items for collaborative nostalgia were identical to those regarding personal shared nostalgia (above); however, they focused on the experience of sharing a nostalgic memory with someone who also experienced that memory (see Appendix D). Again, affective responses fell into three groups: bittersweet emotions ($\alpha = .82$, $M = 3.65$, $SD = 0.82$), positive affect ($\alpha = .90$, $M = 3.69$, $SD = 0.77$), and negative affect ($\alpha = .80$, $M = 2.18$, $SD = 0.65$).

Attachment. The 12-item Experiences in Close Relationship Scale (ECR)- Short Form (Wei, Russell, Mallinckrodt, & Vogel, 2007) was administered to assess participants' attachment anxiety (i.e., fear of rejection; "I need a lot of reassurance that I am loved by my partner"; $\alpha = .75$, $M = 4.03$, $SD = 1.08$) and attachment avoidance (i.e., fear of intimacy; "I want to get close to my partner, but I keep pulling back"; 1 = *Strongly disagree*, 7 = *Strongly agree*; $\alpha = .84$, $M = 2.92$, $SD = 1.12$). The short form of this scale is psychometrically adequate in internal consistency, test-retest reliability, and construct validity (Wei et al., 2007). See Appendix F.

Results

The first research question concerned the frequency with which the participants stated the person they discussed the memory with appeared in that memory. Most participants (64.3 percent) reported that the person they shared the memory with was, indeed, in the memory. This person was rated as moderately central in the memory ($M = 3.10$, $SD = 1.61$). This suggests that collaborative nostalgia is prevalent within social conversations. Conversely, only 35.7 percent

stated that the person was not present for the encoding of the memory (e.g., personal nostalgic memory). The next analysis examined the frequency of shared nostalgia as compared to individual nostalgia. Discussing the memory collaboratively was reported most often among participants (50.4 percent). Reflecting on a memory alone was reported as occurring most often for 31.1 percent of the sample, whereas only 18.6 percent reported that they share personally nostalgic memories with others most often.

The difference in emotional signatures between personal shared nostalgia and collaborative nostalgia was analyzed next. Participants first reported what emotions they experience when recalling collaborative and personal nostalgic memories. For both collaborative and personal nostalgic memories, happiness, excitement, sadness, and longing were among the most reported emotions. *Tables 1 and 2* display the five most reported emotions.

Table 1

Participant Generated Emotions Reported When Recalling Collaborative Nostalgia

Emotion reported	Frequency
Happy/Happiness/Joy	123
Sadness/Sad	39
Excitement/Excited	22
Longing	22
Comforted	7

Table 2*Participant Generated Emotions Reported When Recalling Personal Shared Nostalgia*

Emotion reported	Frequency
Happy/Happiness/Joy	95
Excitement/Excited	28
Sadness/Sad	25
Pride	7
Longing	6

Participants were also shown a list of emotions and rated the extent to which collaborative and personal nostalgia reflected that emotion (see Appendices C and D). Paired samples t-tests revealed that the prevalence of three affective states (positive affect, negative affect, and bittersweet emotions) differed between personal and collaborative memories. Participants' collaborative memories ($M = 3.69$, $SD = 0.77$) were significantly higher in positive affect than participants' personal shared memories ($M = 3.36$, $SD = 0.77$; $t(128) = -5.84$, $p < .001$, $CI [-0.45, -0.22]$). Participants' personal shared memories ($M = 2.31$, $SD = 0.65$) were rated as significantly higher in negative affect than participants' collaborative memories ($M = 2.18$, $SD = 0.65$; $t(128) = 2.85$, $p = .005$, $CI [0.04, 0.21]$). Finally, participants' collaborative memories were more bittersweet ($M = 3.65$, $SD = 0.82$) than participants' personal shared memories ($M = 3.36$, $SD = 0.85$, $t(128) = -4.54$, $p < .001$, $CI [-0.41, -0.16]$). It is important to note that while these means significantly differ from one another, the actual differences between the values are quite small.

Finally, the correlations between attachment anxiety, attachment avoidance, and the significance of sharing personal and collaborative nostalgic memories were assessed. Contrary to

predictions, these correlations were nonsignificant ($p > .06$). Participants' self-reported significance of collaborative and personal shared nostalgia were positively related to positive affect and bittersweet emotions. Specifically, the greater significance one reported of collaborative nostalgia, the more positive affect ($r = .50, p < .001$) and bittersweet emotions ($r = .47, p < .001$) expressed. Similarly, the greater significance of personal shared nostalgia, the greater positive affect ($r = .36, p < .001$) and bittersweet emotions reported ($r = .32, p < .001$).

Discussion

By and large, the results from Study 1 suggest that people engage in shared nostalgia. People more often discuss a shared memory with an individual (collaborative nostalgia) than they share their own nostalgic memories with others or reflect on their nostalgic memories individually. This idea is further supported by most of the sample spontaneously generating a nostalgic memory that included the individual they shared it with. It is possible this occurs given humans' strong need to maintain meaningful social bonds (Baumeister & Leary, 1995). When people reflect on sentimental memories, they may reinforce the bond with one another. Because collaborative nostalgia is a common experience between social groups, it deserves empirical attention. It is important to note, however, that the reported frequency of shared nostalgia could have been influenced by participants beginning the study by reporting a nostalgic memory they shared with another person. Counterbalancing these two frequency measures would ameliorate that issue in the future.

Although the self-generated emotions were consistent between types of shared nostalgia, collaborative nostalgia significantly differs affectively from personal shared nostalgia. This may suggest that the two concepts are distinct from one another. Participants viewed collaborative

nostalgia as a less negative, and more positive and bittersweet emotion. This pattern is in line with nostalgia's affective signature (Wildschut et al., 2006).

Contrary to past research (e.g., Abeyta et al., 2019; Wildschut et al., 2010), the results revealed no association between avoidance-related attachment and the significance or meaningfulness of sharing either personal or collaborative nostalgia. Future examinations should study this further. It is possible that, like romantic nostalgia (Mallory et al., 2019), collaborative and personal shared nostalgia are similar, yet distinctive, from general nostalgia. It was observed that the significance of both types of memories were positively associated with positive affect and bittersweet emotions. Many studies find that nostalgia increases positive affect (Cox et al., 2015). The same could be occurring here; however, the correlational nature of the study allows only for speculation.

STUDY 2

Study 1 established that people naturally engage in collaborative nostalgia, even more than other forms of nostalgia. Study 2 tested the claim that collaborative nostalgia serves to maintain connections between individuals. If collaborative nostalgia helps people maintain connection, those who feel disconnected should have a greater desire for collaborative nostalgia, but perhaps this effect would only be observed for important relationships. Similarly, people who have not been in recent contact with close friends or family (low temporal closeness) should have a greater desire for collaborative nostalgia as a method to restore the relationship, but perhaps only for those who are unsatisfied with the level of contact with that individual. The same patterns should emerge for motivation to connect and state nostalgia, as well. It is reasonable to suspect that disconnection, particularly with an important relationship, would be related to a motivation to connect. Similarly, the established sociality of nostalgia suggests that state nostalgia would be equally related to the variables of interest.

Method

Participants and Procedure

A G*Power analysis, anticipating a small to medium effect size ($\eta_p^2 = .20$), power of .80, and $p = .05$, indicated recruitment of at least 150 participants for the correlation analyses. To account for interaction effects, as well, a G*Power analysis, anticipating a small to medium effect size ($\eta_p^2 = .20$), power of .80, and $p = .05$, indicated recruitment at least 210 participants. This is further supported by the idea that there should be at least 50 participants per cell. Sixteen participants failed the attention check (“Please mark “2” as your answer”) and were excluded from analyses. Thus, the final sample size was 211 (130 male, $M_{age} = 36.71$, $SD_{age} = 11.42$) recruited via Amazon Mechanical Turk (AMT). Most of the sample identified as White/non-

Hispanic (70.6 percent). The sample also consisted of 13.3 percent Hispanic or Latino, 6.6 percent African American or Black, 5.7 percent Asian American or Asian, 1.9 percent American Indian or Alaska Native, 1.4 percent Other, and 0.5 percent Native Hawaiian or Pacific Islander participants. Participants completed the measures in the following order. Participants were paid 0.15 cents per minute. As such, participants received 0.75 cents upon completion for this five-minute study.

Measures

Temporal closeness. Participants were instructed to think about a living close friend or family member and consider several of the following questions with that individual in mind (see Appendix F). Temporal closeness was operationalized as how often participants meaningfully interact with that person (1 = *I interact with this person less than once a month*, 2 = *I interact with this person once a month*, 3 = *I interact with this person less than once a week, but at least once a month*, 4 = *I interact with this person at least once a week*, 5 = *I interact with this person once a day*, 6 = *I interact with this person multiple times a day*; $M = 4.61$, $SD = 1.39$). In consideration of the context of the relationship, participants were also asked “How satisfied are you with how often you meaningfully interact with this person?” (1 = *Not very satisfied*, 7 = *Very satisfied*; $M = 5.53$, $SD = 1.56$).

Emotional distance. To assess a sense of emotional distance from the close relationship, participants were asked “How much do you miss this person?” (1 = *Not very much*, 7 = *Very much*; $M = 4.70$, $SD = 1.91$).

Emotional closeness. Thinking of the same living close friend or family member, participants responded to items measuring emotional closeness to that individual (“How close do you feel to this person?”; $M = 5.97$, $SD = 1.30$). See Appendix F.

Importance of relationship. To assess the context of the relationship, participants were asked “How important is this relationship to you?” (1 = *Not very important*, 7 = *Very important*; $M = 6.27$, $SD = 1.13$). See Appendix F.

COVID-19 pandemic barriers. During the COVID-19 pandemic, cities shut down and people stayed home to stop the spread of COVID-19. Because the study measures emotional and temporal distance, it was necessary to control for barriers to connection with the individual they thought about with one item (“To what extent is COVID-19 a barrier to you interacting with this person?” 1 = *Not very much*, 7 = *Very much*; $M = 3.80$, $SD = 2.27$). See Appendix F.

Collaborative nostalgia. Participants completed the 4-item Desire for Collaborative Nostalgia scale to measure participant’s desire for collaborative nostalgia with the individual (Sample item: “I want to talk with this person about nostalgic memories we share together”; 1 = *Strongly disagree*, 5 = *Strongly agree*). This scale was created by the researcher for this study ($\alpha = .69$, $M = 3.92$, $SD = 0.80$). See Appendix G.

Motivation. Five items, adapted from the Friendship-Approach Goals scale (Elliot et al., 2006) and a measure of social goal striving (Abeyta et al., 2015), measured the participant’s motivation to connect with the individual. Sample items included: “I want to deepen my relationship with this person” and “I will make an effort to connect with this person” (1 = *Not very true of me*, 7 = *Very true of me*; $\alpha = .92$, $M = 5.74$, $SD = 1.27$). See Appendix H.

State nostalgia. Participants’ state nostalgia was measured with the Nostalgia Inventory (Batcho, 1995). Participants rated how nostalgic they were for 20 persons (e.g., “my family”), situations (e.g., “the way people were”), or events (e.g., “vacations I went on”) from their past on a scale from 1 = *Not at all nostalgic* to 5 = *Very nostalgic* ($\alpha = .92$, $M = 3.30$, $SD = 0.81$). See Appendix I.

Results

Table 3 shows the partial correlations for Study 2. Considering the social nature of these items, these correlations controlled for barriers from the recent COVID-19 quarantine (e.g., “To what extent is COVID-19 a barrier to you interacting with this person?”). The study found mixed support for the presented hypotheses. How often participants interacted with the close relationship (temporal closeness) was positively related to the motivation to connect, but not either nostalgia measure. More emotional distance, as well as more emotional closeness, were associated with a stronger desire for collaborative nostalgia, motivation to connect, and state nostalgia. This suggests that the participants had a general inclination toward social connectedness. As seen in *Table 4*, participants most often brought a friend to mind (38.4 percent) when reflecting on someone close to them.

General linear modeling (GLM) was utilized to test the proposal that the importance of relationships and the satisfaction with temporal closeness would moderate the relationships of interest (relationships between temporal closeness, emotional closeness and distance, desire for collaborative nostalgia, motivation to connect, and nostalgia). Contrary to the hypothesis, these relationships were not influenced by either the importance of the relationship or satisfaction with temporal closeness while controlling for COVID-19 barriers (p s > .08).

Table 3*Partial Correlations from Study 2*

Factor	2	3	4	5	6	7	8
1 Temporal closeness	-.02	.35***	.42***	.33***	.11	.22**	.02
2 Emotional distance	—	.37***	.15*	.37***	.39***	.42***	.29***
3 Emotional closeness		—	.57***	.71***	.36***	.68***	.17*
4 Satisfaction with temporal closeness			—	.45***	.19**	.44***	.21**
5 Importance of relationship				—	.34***	.58***	.10
6 Desire for collaborative nostalgia					—	.60***	.37***
7 Motivation to connect						—	.29***
8 State nostalgia							—

Note. $p < .05^*$, $p < .01^{**}$, $p < .001^{***}$

Table 4*Frequencies of Relationships Reported in Study 2*

Nature of Relationship	Frequency (out of 211)	Percent
Friend	81	38.4
Romantic partner	41	19.4
Brother	26	12.3
Mother	22	10.4
Father	19	9.0
Sister	15	7.1
Extended family	4	1.9
Other	2	0.9
Grandparent	1	0.5

Since this study featured many indicators of sociality, a regression analysis is useful in determining which indicators uniquely predict the desire for collaborative nostalgia. As shown in *Table 5*, when accounting for the other predictors, emotional distance (i.e., missing the person), the motivation to connect, and state nostalgia contributed to the desire for collaborative nostalgia.

Table 5

Predictors of the Desire for Collaborative Nostalgia in Study 2

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>	95% <i>CI</i>
Temporal closeness	.03	.04	.04	0.69	.49	[-0.05, 0.10]
Emotional distance	.07	.03	.16	2.22	.03	[0.01, 0.12]
Emotional closeness	-.03	.03	-.06	-0.59	.55	[-0.15, 0.08]
Satisfaction with temporal closeness	-.06	.06	-.11	-1.56	.12	[-0.13, 0.02]
Importance of relationship	.01	.04	.02	0.23	.82	[-0.10, 0.12]
Motivation to connect	.35	.05	.55	6.98	< .001	[-0.25, 0.44]
State nostalgia	.20	.06	.20	3.30	.001	[0.08, 0.31]
COVID-19 pandemic barriers	-.04	.02	-.12	-1.85	.07	[-0.09, 0.003]

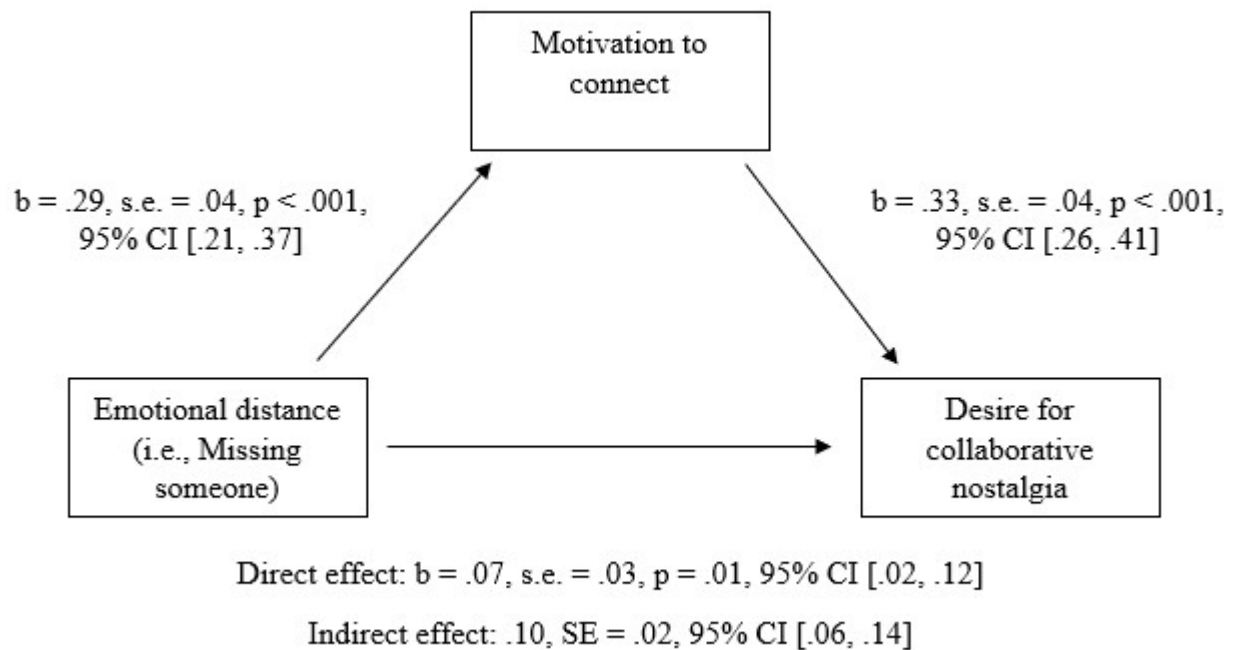
Note. $R = 0.65$; Adjusted $R^2 = 0.40$; *CI* = confidence interval.

The results provided no support for qualities of the relationship moderating the relationships with the desire for collaborative nostalgia. Instead, perhaps it is crucial to consider one's motivation to connect. If the desire for collaborative nostalgia is spurred by disconnection, then the motivation to connect could contribute to that relationship. This was examined in an exploratory mediation utilizing Hayes Process Macro (model 4; Hayes, 2017), illustrated in *Figure 1*. Emotional distance predicted the motivation to connect ($b = 0.29$, $s.e. = 0.04$, $p < .001$, 95% *CI* [0.21, 0.37]). Moreover, the motivation to connect was significantly related to the desire for collaborative nostalgia ($b = 0.33$, $s.e. = 0.04$, $p < .001$, 95% *CI* [0.26, 0.41]). Importantly, emotional distance predicted desire for collaborative nostalgia (Total effect: $b = 0.16$, $s.e. = 0.03$,

$p < .001$, 95% CI [0.11, 0.22]) when controlling for COVID-19 pandemic barriers (Direct effect: $b = 0.07$, $s.e. = 0.03$, $p = .01$, 95% CI [0.02, 0.12], Indirect effect: $b = 0.10$, $SE = 0.02$, 95% CI [0.06, 0.14]).

Figure 1

Motivation to Connect Mediates the Relationship Between Missing a Close Relationship and Desire for Collaborative Nostalgia When Controlling for Perceived COVID-19 Pandemic Barriers in Study 2



Discussion

The correlational results suggest that there is a relationship between collaborative nostalgia and emotional distance, in support of the claim that collaborative nostalgia serves a social function. The more the participant missed the individual, the more the participant desired collaborative nostalgia. Interestingly, the closer the participant felt to the individual, the stronger their desire for collaborative nostalgia, as well. However, this effect was not significant when controlling for other social indicators in the regression model. In addition, emotional distance

and emotional closeness were positively correlated. This suggests that emotional closeness may not be a good indicator of social disconnection. State nostalgia showed an identical pattern. This could suggest a desire to connect, even when people are already close. The importance of the relationship surprisingly did not impact these associations. However, how close the participants felt to the individual and the importance of the relationship had a strongly positive correlation of $r = .71$, suggesting there is much overlap between the two concepts.

Although collaborative nostalgia and state nostalgia were not related to temporal closeness, the motivation to connect was associated with both emotional and temporal closeness. This relationship makes sense intuitively; the stronger inclination one has to connect with a person, the more often they meaningfully interact with them. This association, however, was not moderated by one's satisfaction with how often they meaningfully connect. One potential explanation for not observing a relationship between the types of nostalgia and temporal closeness: perhaps not seeing the close relationship often means there is less opportunity to create nostalgic memories together.

When assessing the relationship between the various social factors and the desire for collaborative nostalgia, just a few variables uniquely contributed to the desire for collaborative nostalgia. In particular, emotional distance, motivation to connect, and state nostalgia were significantly associated with the desire for collaborative nostalgia when accounting for other social contributors. Moreover, a mediation found that emotional distance was related to the desire for collaborative nostalgia partially because of the motivation to connect. Although the data is correlational, the regression and mediation taken together suggests that collaborative nostalgia could be a relationship maintenance strategy. When reflecting on how missed an

individual is, it could make that person want to connect with the missed individual, possibly through discussing nostalgic memories they share together.

Study 2 examined the initial relationships in the variables of interest. In all, it seems people desire collaborative nostalgia both when they feel close, and emotionally far, from a close relationship. Although the findings did not entirely follow the predicted patterns, it still provides support for collaborative nostalgia as a mechanism to preserve relationships. Study 3 expanded on this research by exploring the causal link between collaborative nostalgia and emotional closeness and distance.

STUDY 3

Study 3 experimentally investigated the relationship between emotional closeness and collaborative nostalgia. If it is true that shared nostalgia contributes to the maintenance of relationships, then a threat to the relationship may increase one's desire for collaborative nostalgia in order to repair the disconnection. Thus, it is hypothesized those prompted to reflect on a threat to the relationship will have a heightened desire for collaborative nostalgia, motivation to connect, and state nostalgia, as compared to those not threatened. State nostalgia was measured, as it is possible that emotional distance raises state nostalgia, but not specifically collaborative nostalgia. Based on past research, the analyses controlled for attachment style and affect (e.g., Wildschut et al., 2010). Moreover, to replicate the exploratory findings from Study 2, a regression examining the predictors of the desire for collaborative nostalgia and a mediation analysis were conducted. It is hypothesized that, as was found in Study 2, a motivation to connect would mediate the relationship between emotional distance (i.e., missing the person) and the desire for collaborative nostalgia. This study was preregistered at <https://osf.io/y7bsp>.

Method

Participants and Procedure

A G*power analysis, anticipating a small to medium effect size ($\eta^2 = .25$), power of .95, and $p = .05$, indicated recruitment of at least 210 participants. Three hundred and seven participants were recruited via AMT; however, 96 participants were removed from analyses because they either failed the attention check ("Please mark "2" as your answer"), or a provided nonsensical response to the written prompt. Two hundred and eleven participants remained (124 male, $M_{age} = 36.80$, $SD_{age} = 11.82$). Most participants identified as Caucasian (74.0 percent). Additionally, 10.4 percent of the sample identified as African American or Black, 7.6 percent

identified as Hispanic or Latino, 6.2 percent were Asian American or Asian, 0.9 percent were American Indian or Alaska Native, 0.5 percent identified as Middle Eastern, and a final 0.5 percent identified as Other. Participants were randomly assigned to a condition (IV: threatened relationship vs not threatened) and completed the measures in the following order. Participants were instructed to think about a living close friend or family member and consider several questions with that individual in mind.

Measures

Temporal closeness. As in Study 2, temporal closeness was operationalized as how often participants meaningfully interact with that person (1 = *I interact with this person less than once a month*, 2 = *I interact with this person once a month*, 3 = *I interact with this person less than once a week, but at least once a month*, 4 = *I interact with this person at least once a week*, 5 = *I interact with this person once a day*, 6 = *I interact with this person multiple times a day*; $M = 4.92$, $SD = 1.28$). Participants were, again, asked: “How satisfied are you with how often you meaningfully interact with this person?” (1 = *Not very satisfied*, 7 = *Very satisfied*; $M = 5.75$, $SD = 1.47$). See Appendix F.

Emotional distance. Emotional distance was again measured with a single item: “How much do you miss this person?” (1 = *Not very much*, 7 = *Very much*; $M = 5.08$, $SD = 1.71$). See Appendix F.

Emotional closeness. Thinking of the same living close friend or family member, participants responded to items measuring emotional closeness to that individual (“How close do you feel to this person?” ($M = 6.18$, $SD = 1.17$). See Appendix F.

Importance of relationship. Since the context of the relationship matters, participants were also asked “How important is this relationship to you?” (1 = *Not very important*, 7 = *Very important*; $M = 6.47$, $SD = 1.47$). See Appendix F.

COVID-19 pandemic barriers. Like in Study 2, it was necessary to ensure that the COVID-19 pandemic was not contributing to the findings. Thus, one item (“To what extent is COVID-19 a barrier to you interacting with this person?” 1 = *Not very much*, 7 = *Very much*; $M = 3.57$, $SD = 2.23$) was used as a control in analyses. See Appendix F.

Manipulation. Next, all participants read the following prompt in Qualtrics: “For the next few minutes, describe your relationship with that person and what makes that relationship special”. After receiving that prompt, half the participants were randomly assigned to continue the survey, while the other half were to complete another writing prompt. This prompt threatened their close relationship by asking participants to “...discuss a situation or challenge in this relationship that has made you feel emotionally distant or disconnected from one another” (see Appendix K).

Motivation. Motivation to connect was measured with the adapted scale (Abeyta et al., 2015; Elliot et al., 2006) discussed in Study 2; however, the anchors were increased to allow for nuanced answers (1 = *Not very true of me*, 10 = *Very true of me*; $\alpha = .89$, $M = 8.44$, $SD = 1.72$). See Appendix H.

Desire for Collaborative nostalgia. The measure of collaborative nostalgia was identical to Study 2; however, the anchors were increased to allow for nuanced answers (1 = *Strongly disagree*, 10 = *Strongly agree*; $\alpha = .81$, $M = 7.55$, $SD = 2.13$). See Appendix G.

State nostalgia. Participants’ state nostalgia was measured with the Nostalgia Inventory used in Study 2 (Batcho, 1995; $\alpha = .90$, $M = 3.27$, $SD = 0.76$). See Appendix I.

Attachment. The ECR-Short Form (Wei et al., 2007) was administered to assess adult attachment, as discussed in the Study 1. Both the Anxiety ($\alpha = .82$, $M = 3.30$, $SD = 1.33$) and the Avoidance ($\alpha = .85$, $M = 2.62$, $SD = 1.21$) subscales had acceptable reliability. See Appendix E.

Affect. The Positive and Negative Affect Schedule (PANAS) measured affect (Watson, Clark, & Tellegen, 1988). This comprises two 10-item scales that measure positive (e.g., “Enthusiastic”; $\alpha = .91$, $M = 3.33$, $SD = 0.90$) and negative (e.g., “Distressed”; $\alpha = .94$, $M = 1.65$, $SD = 0.82$) affect. This scale has strong test-retest reliability, convergent reliability (Watson et al., 1998), and construct validity (Crawford & Henry, 2004). See Appendix K.

Results

First, partial correlations between the variables of interest were analyzed while controlling for COVID-19 barriers (see *Table 6*). As observed in Study 2, more emotional distance and emotional closeness were associated with a stronger desire for collaborative nostalgia, motivation to connect, and state nostalgia. Temporal closeness was related to the desire for collaborative nostalgia and nostalgia, even though this relationship was not present in Study 2. Consistent with Study 2, the motivation to connect and the desire for collaborative nostalgia was highly positively correlated. Similarly, state nostalgia was positively related to both the motivation to connect and the desire for collaborative nostalgia. As one would expect, higher attachment-related avoidance was associated with a reduced desire for collaborative nostalgia and motivation to connect. Attachment-related anxiety also showed this pattern. *Table 7* demonstrates the type of close relationships participants recalled at the start of the study.

Table 6*Partial Correlations from Study 3*

Factor	2	3	4	5	6	7	8	9	10	11	12
1 Temporal closeness	.15*	.43***	.52***	.39***	.15*	.36***	.19**	.22**	-.07	.28***	.13
2 Emotional distance	—	.29***	.10	.27***	.21**	.39***	.13	.01	-.13	.08	.10
3 Emotional closeness		—	.59***	.68***	.48***	.69***	.18**	-.17*	-.35***	.28***	-.21**
4 Satisfaction with temporal closeness			—	.46***	.28***	.49***	.19**	.03	-.25***	.32***	-.06
5 Importance of relationship				—	.44***	.67***	.14*	-.16*	-.30***	.18*	-.24***
6 Desire for collaborative nostalgia					—	.65***	.36***	-.24**	-.45***	.26***	-.25***
7 Motivation to connect						—	.27***	-.18**	-.52***	.31***	-.24*
8 State nostalgia							—	.10	-.03	.37***	.19**
9 Attachment-related anxiety								—	.42***	-.05	.51***
10 Attachment-related avoidance									—	-.30***	.53***
11 Positive affect										—	.02
12 Negative affect											—

Note. $p < .05^*$, $p < .01^{**}$, $p < .001^{***}$

Table 7*Frequencies of Relationships Reported in Study 3*

Nature of Relationship	Frequency (out of 211)	Percent
Friend	76	36.0
Romantic partner	56	26.5
Sister	20	9.5
Brother	18	8.5
Mother	17	8.1
Father	13	6.2
Extended family	7	3.3
Grandparent	3	1.4
Other	1	0.5

It was hypothesized that, when controlling for affect, attachment style, and COVID-19 barriers, those who experience a threat to the relationship will have an increased desire for collaborative nostalgia, motivation to connect, and state nostalgia, as compared to those not threatened. Analyses of covariance (ANCOVA) provided no support for this hypothesis, as the threatened group did not significantly differ from the control group on desire for collaborative nostalgia, motivation to connect, or state nostalgia ($ps > 0.39$). See *Table 8* for the means, standard deviations of the conditions, and ANCOVA statistics on the outcome variables.

Table 8

Means, Standard Deviations, and One-Way Analyses of Covariance in the Desire for Collaborative Nostalgia, Motivation to Connect, and State Nostalgia

Measure	Relationship threatened		Relationship not threatened		$F(1, 204)$	η^2
	M	SD	M	SD		
Desire for collaborative nostalgia	7.58	2.00	7.51	2.25	0.45	0.002
Motivation to connect	8.37	1.71	8.51	1.73	0.10	< 0.000
State nostalgia	3.31	0.72	3.23	0.81	0.90	0.004

Table 9

Predictors of the Desire for Collaborative Nostalgia in Study 3

Variable	B	$SE B$	β	t	p	95% CI
Temporal closeness	-.22	.11	-.13	-2.01	.04	[-0.43, -0.01]
Emotional distance	-.08	.07	-.06	-1.08	.28	[-0.22, 0.07]
Emotional closeness	.23	.15	.13	1.57	.12	[-0.06, 0.53]
Satisfaction with temporal closeness	-.09	.10	-.06	-0.86	.39	[-0.29, 0.11]
Importance of relationship	.03	.17	.01	0.19	.85	[-0.31, 0.37]
Motivation to connect	.74	.10	.60	7.42	< .001	[0.54, 0.93]
State nostalgia	.61	.15	.22	3.99	< .001	[0.31, 0.86]
COVID-19 pandemic barriers	-.03	.06	-.04	-0.62	.54	[-0.14, 0.07]
Manipulation	-.15	.22	-.04	-0.67	.50	[-0.58, 0.28]

Note. $R = 0.70$; Adjusted $R^2 = 0.46$; CI = confidence interval.

Most variables in Study 3 are considered social in nature. As in Study 2, a regression analysis was conducted to examine which variables predict collaborative nostalgia when accounting for other related predictors. *Table 9* demonstrates that motivation to connect and state nostalgia uniquely predicted the desire for collaborative nostalgia; however, emotional distance is not a predictor, as was seen in Study 2. The regression suggests that when considering

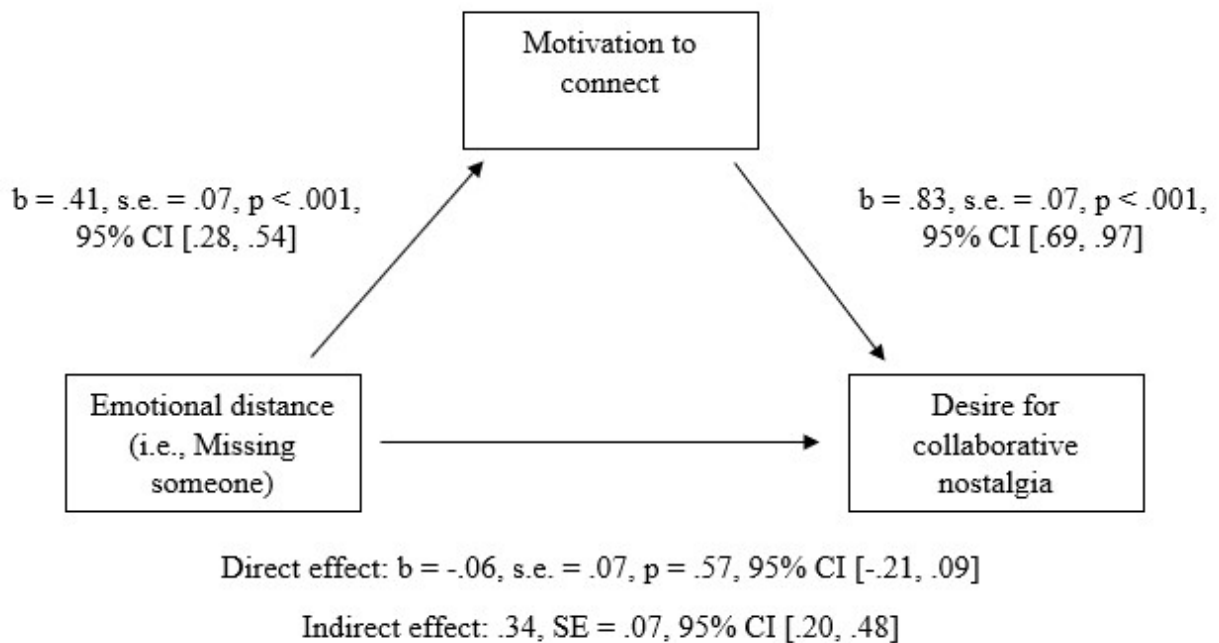
collaborative nostalgia, qualities of relationships do not matter as much one's inspiration to build and pursue relationships and one's nostalgic reflection. The stronger motivation and nostalgia, the stronger the desire to engage in collaborative nostalgia. Interestingly, temporal closeness (as opposed to emotional distance from Study 2) negatively predicted the desire for collaborative nostalgia. Although correlational, this is consistent with the view that collaborative nostalgia may contribute to relationship maintenance, as those who interact with a close other less have a stronger desire for collaborative nostalgia.

Lastly, Haye's Process Macro (model 4; Hayes, 2017) was utilized to test the proposal that emotional distance (i.e., missing an individual) would be related to a stronger motivation to connect, which would then be associated with a stronger desire for collaborative nostalgia. COVID-19 barriers were assessed as a covariate in this analysis, as well. Since analyses were conducted with the entire sample of participants, the manipulation was also a covariate. Indeed, the relationship between missing someone and desire for collaborative nostalgia was mediated by motivation to connect. The path from missing the person to motivation to connect was statistically significant ($b = .41$, $s.e. = .07$, $p < .001$, 95% CI [.28, .54]), indicating that the more someone misses a person, the more they are motivated to connect with that person. Motivation to connect was significantly related to the desire for collaborative nostalgia ($b = .83$, $s.e. = .07$, $p < .001$, 95% CI [.69, .97]), suggesting that the stronger motivation to connect, the stronger the desire for collaborative nostalgia. The path from missing the person to desire for collaborative nostalgia was also significant (Total effect: $b = .28$, $s.e. = .09$, $p = .002$, 95% CI [.10, .45]); however, this relationship became nonsignificant when controlling for the motivation to connect (Direct effect: $b = -.06$, $s.e. = .07$, $p = .42$, 95% CI [-.21,.09]). The bootstrapped unstandardized indirect effect of missing the person on desire for collaborative nostalgia was .34 and was

statistically significant, $SE = .07$, 95% CI [.20, .48]. This relationship is illustrated in *Figure 2*, showing that the relationship between missing someone and desire for collaborative nostalgia exists, in part, because of the motivation to connect.

Figure 2

Motivation to Connect Mediates the Relationship Between Missing a Close Relationship and Desire for Collaborative Nostalgia When Controlling for Perceived COVID-19 Pandemic Barriers and the Manipulation in Study 3



Discussion

It was expected that reminders of disconnection from a close relationship would heighten the motivation to connect and desire for collaborative nostalgia, as an attempt to restore the relationship. There were no significant differences between conditions tested. This can be interpreted as either the proposed hypothesis is not supported, or the manipulation did not work as designed. Unfortunately, this experiment did not feature a manipulation check to assess the effectiveness of the manipulation. It is possible that a ceiling effect occurred, such that all participants felt a strong inclination toward engaging with the friend or family member they

recalled, as evidenced by the means of both conditions (see *Table 8*). Thus, the manipulation may not have been impactful enough to move participants on the dependent variables.

Additionally, it is possible that the threat some participants recalled was no longer jeopardizing the relationship, and thus, the participant did not feel threatened.

While experimental findings did not support the proposed hypothesis, the mediation is in line with predicted relationships and replicates the partial mediation from Study 2. Those that miss someone more show a stronger desire for collaborative nostalgia because of their motivation to connect. This follows the idea that people are inclined to reflect on meaningful experiences with a close relationship when they feel distanced from them. It is possible this desire for collaborative nostalgia promotes the behavior of nostalgic conversations, which may strengthen the relationship by reminding them of cherished times. This, however, has yet to be examined.

Study 3 provided partial, correlational support for the claim that those who feel emotionally distanced from a close relationship could turn to collaborative nostalgia to reinforce the relationship. Causality has yet to be determined, though. Study 4 tested this hypothesis by manipulating distinct types of nostalgia and measuring indicators of social connection.

STUDY 4

Study 4 directly tested the proposal that collaborative nostalgia serves to help maintain connections. If collaborative nostalgia enhances social connectedness, then discussing shared memories together should increase intimacy level, as opposed to discussions concerning ordinary life events. Social reminiscence literature supports this hypothesis, as those who talk about autobiographical memories together report more closeness (Beike et al., 2017), relationship satisfaction (Alea & Vick, 2010), and physical contact (Ingersoll-Dayton et al., 2013; Osgarby & Halford, 2013). As nostalgia itself induces social connectedness (e.g., Sedikides & Wildschut, 2018), it is possible there will be no difference in intimacy levels between pairs discussing between collaborative nostalgia or shared personal nostalgia. If there are significant differences, this would provide some evidence of distinct types of shared nostalgia. This study was preregistered at <https://osf.io/gk6m9>.

Method

Participants and Procedure

A G*Power analysis, anticipating a small to medium effect size ($\eta_p^2 = .25$), power of .95, and $p = .05$, indicated sufficient power with at least 279 participants. However, the study did not achieve the desired sample. Data was collected from 252 participants, but only 175 participants' data were utilized for analyses. Seventy-seven participants were removed from analyses for failing to follow directions. Participants were asked to discuss a particular topic on the phone. If the self-reported content of the phone call did not comply with instructions, that participant was removed from analyses. As an example, one participant was instructed to discuss a collaborative nostalgic experience with the individual they called. When asked what was discussed in the phone call, the participants responded, "We talked about my classes and what I

am doing next semester for housing”. Studies 2 and 3 examined a more diverse set of participants via AMT; however, due to financial restraints, participants were recruited from a Midwestern university’s psychology participant pool.

Of the remaining 175 participants, 114 identified as female ($M_{age} = 18.85$, $SD_{age} = 1.76$). The majority classified themselves as White/non-Hispanic (92 percent). Additionally, 5.1 percent identified as Asian American or Asian, 1.1 percent identified as American Indian or Alaska Native, and 0.6 percent each identified as African American or Black, Hispanic or Latino, or Other. Participants were instructed to contact a close relationship and discuss one of the following randomly assigned conditions: 1) a collaborative nostalgic memory they share with that person, 2) a personal nostalgic memory the other person did not experience, or 3) an ordinary event that occurred that week. Then, participants completed the measures online in the following order.

Measures

Manipulation. Participants were instructed to “...contact a close friend or family member with either a phone call or a virtual contact platform (e.g., FaceTime, Snapchat video call, Facebook video call, Duo)” when they have an uninterrupted 30 minutes (to call, end the phone call, and then subsequently complete the questionnaire). They talked with that individual for 10 minutes about a particular type of memory assigned to them. Participants could be assigned to one of three conditions: a collaborative nostalgic memory, a personal nostalgic memory, or an ordinary event in the past week. Participants were given a definition and an example of the type of memory they are to discuss (see Appendix L).

Manipulation check. After ending the phone call, participants rated the extent to which they felt nostalgic (“How nostalgic do you feel?”) on a scale from 1 = *Very slightly or not at all* to 5 = *Extremely* ($M = 3.47, SD = 1.28$). See Appendix M.

Intimacy. Intimacy was measured with the 5-item Emotional Intimacy Scale (Sinclair & Dowdy, 2005; sample item: “This person completely accepts me as I am” 1 = *Rarely*, 5 = *A great deal of the time*; $\alpha = .83, M = 4.69, SD = 0.50$). See Appendix N.

The Inclusion of Other in the Self (IOS) Scale (Aron, Aron, & Smollan, 1992) was administered to assess how close participants felt to the individual they called. The IOS Scale features seven pairs of circles that show various levels of overlap. More overlap suggests a stronger sense of closeness (1 = *No overlap*, 7 = *Most overlap*; $M = 5.39, SD = 1.24$). See Appendix O.

Attachment. The ECR-Short Form (Wei et al., 2007) was administered to assess adult attachment, as discussed in Studies 1-3. The Anxiety and Avoidance subscales showed acceptable reliability (Anxiety: $\alpha = .75, M = 3.98, SD = 1.11$, Avoidance: $\alpha = .80, M = 2.66, SD = 1.07$). See Appendix E.

Affect. The Positive and Negative Affect Schedule (PANAS) to measured affect (Watson et al., 1988), as used in Study 3. Most of the Cronbach’s alphas were acceptable (Positive affect: $\alpha = .85, M = 3.19, SD = 0.72$; Negative affect: $\alpha = .69, M = 1.37, SD = 0.38$). See Appendix K.

Results

Table 10 displays the partial correlations on the measures of interest. Of note, nostalgic feelings were positively related to the participants’ reported level of intimacy toward the individual they called, such that more nostalgia was related to higher ratings of intimacy.

Moreover, the two intimacy scales were related, but only at a correlation of .47, suggesting that they are similar, yet distinct constructs.

Table 10

Partial Correlations from Study 4

Factor	2	3	4	5	6	7
1 How nostalgic do you feel?	.20**	.25**	.38**	-.01	-.11	.10
2 Emotional Intimacy Scale	—	.47**	.23**	-.19*	-.08	-.07
3 IOS		—	.29**	-.12	-.13	-.09
4 Positive affect			—	-.003	-.03	.06
5 Negative affect				—	.09	.03
6 Attachment-related anxiety					—	.25**
7 Attachment-related avoidance						—

Note. $p < .05^*$, $p < .01^{**}$

Ratings on the manipulation check were compared by condition to ensure the phone call manipulation was successful in inducing nostalgia. A post hoc Tukey HSD test compared groups for significant differences. As expected, the collaborative nostalgia ($M = 4.29$, $SD = 0.72$) and personal shared nostalgia condition ($M = 3.90$, $SD = 0.89$) felt significantly more nostalgic than those in the ordinary condition ($M = 2.36$, $SD = 1.17$; $p < .001$); however, there were no differences between the two nostalgic groups ($p = .09$).

Next, the effect of the manipulation on intimacy was analyzed with ANCOVAs. In contrast to the proposed hypotheses, there were no significant differences in either intimacy measures (Emotional Intimacy Scale: $p = .84$; IOS: $p = .12$) when controlling for attachment styles and affect (see *Table 11*). Participants generally rated themselves as feeling as close to the individual as possible. The IOS scale followed a similar pattern.

Table 11*Means, Standard Deviations, and One-Way Analyses of Covariance in Intimacy*

Measure	Collaborative nostalgia		Personal shared nostalgia		Ordinary		<i>F</i> (2, 168)	η^2
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Emotional Intimacy Scale	4.75	0.38	4.69	0.53	4.65	0.58	0.17	0.002
Inclusion of Other in the Self (IOS) Scale	5.47	1.10	5.63	1.10	5.13	1.41	2.19	0.03

Discussion

This study attempted to manipulate types of shared nostalgia (i.e., collaborative nostalgia and personal shared nostalgia) to test the claim that it is a relationship maintenance strategy. It was expected that those in either collaborative nostalgia, or both collaborative and personal shared nostalgia conditions, would have a stronger sense of intimacy with a close other after discussing a nostalgic memory, as opposed to a control condition. Although the manipulation was successful in inducing nostalgia in the collaborative and personal shared conditions but not the ordinary condition, there were no significant differences between groups. As the results suggest, it could be that shared nostalgia does not boost intimacy between people. However, it is likely that several other factors contributed to this null result, especially considering past support for the claim that reflecting on memories increases closeness in relationships (Alea & Bluck, 2007; Alea & Vick, 2010; Beike et al., 2017; Ingersoll-Dayton et al., 2013; Norrick, 1997; Osgarby & Halford, 2013).

First, the dependent variable could suffer from ceiling effects. It is possible that participants already feel a strong sense of connection with the individuals they called. Therefore, the manipulation could not successfully increase intimacy levels beyond its original standing.

Examining the means of the two dependent variables provided evidence for this. The Emotional Intimacy Scale is scored out of 5, with 5 being the highest levels of intimacy. As seen in *Table 11*, participants generally rated themselves as feeling as close to the individual as possible. The IOS scale followed a similar pattern. Future studies should consider dependent variables that are not subject to ceiling effects. Secondly, the achieved sample size ($N = 175$) falls short of the suggested sample of 275 participants; thus, this study is underpowered. Underpowered studies are problematic because of Type I and Type II errors. Considering the null result, this study could be vulnerable to a Type II error, where an effect does exist, but the power is not sufficient to detect it.

GENERAL DISCUSSION

Nostalgia is a bittersweet, social emotion that promotes social connection by strengthening approach motivation. However, the vast literature on nostalgia focuses on the individual's experience. The current research presents a unique form of nostalgia: shared nostalgia. Shared nostalgia accounts for the interpersonal nature of nostalgia, as many interpersonal interactions involve social reminiscence (Beike et al., 2016; Pasupathi et al., 2002; Pasupathi & Carstensen, 2003). As an example, two or more people conversing may discuss a nostalgic memory they were all present for (i.e., collaborative nostalgia), or one person could share nostalgic memories with those who did not experience it themselves (i.e., shared personal nostalgia). This research attempts to understand the prevalence and emotional experience of shared nostalgia and its potential purpose to sustain close relationships.

In the exploration of a novel concept, one must first understand its nature. As such, Study 1 investigated if collaborative and personal shared nostalgic reverie occur in social interactions. Crucially, evidence showed that collaborative nostalgia is the primary mode of nostalgic reflection, dwarfing even individual nostalgic reflection. Thus, although the body of literature on nostalgia examines individual nostalgia, these results suggest attention may be better served on interactive nostalgia; the current research does not fully reflect the lived experience. The closest research concerning this idea asked young participants (below age 30) to read nostalgic recollections of older individuals (above age 75). The young readers of older narratives, compared to young readers of ordinary narratives, felt the benefits of nostalgia (e.g., heightened social connectedness, self-continuity, and meaning), despite not engaging in nostalgic reverie themselves. The authors described this as intergenerational emotion transfer, in which the older individuals evoked nostalgia in the younger readers (Wildschut et al., 2018). This design is

similar to the concept of personal shared nostalgia, in which one person retells their nostalgic memories for one or more people that did not participate in it. A critical difference, however, is the interactive nature. Reading nostalgic reverie may be different than actively listening to the individual recall the experience. The medium of a conversation also allows the listener to contribute to the dialogue. Study 1 additionally sought to understand the emotional signature of collaborative and personal shared nostalgia. Self-generated and prompted emotions revealed that these forms of shared nostalgia adhere to the prototype of nostalgia (Wildschut et al., 2006), such that the experiences are described and rated as high in both happiness and sadness. Collaborative nostalgia, as opposed to personal shared nostalgia, was significantly greater in positive affect and lower in negative affect. The minor distinctions in means, however, suggest these significant differences may be small. A picture emerges of shared nostalgia with Study 1. As this study and the literature on social reminiscence suggests (Beike et al., 2016; Pasupathi et al., 2002; Pasupathi & Carstensen, 2003), nostalgic reflection occurs commonly in social interactions. The next question to address is: Why?

Studies 2-4 attempted to answer this inquiry through correlational and experimental means. The proposed purpose of shared nostalgia is to nurture social relationships. It was, therefore, hypothesized that important relationships undergoing emotional or temporal disconnection would show a stronger desire to engage in collaborative nostalgia, motivation to connect, and state nostalgia. Temporal closeness was not significantly related to the variables of interest in Study 2 nor was the relationship moderated by the importance of the relationship or one's satisfaction with their temporal closeness. If shared nostalgia does enhance social connections, then this finding suggests that how often one interacts is not crucial in the development of relationships. Seeing one another often does not ensure the individuals desire

further connection; for instance, coworkers interact often but do not always desire to move beyond a work relationship. However, it is important to note temporal closeness was related to the desire for collaborative nostalgia, motivation to connect, and state nostalgia in Study 3. Additionally, emotional and temporal closeness were positively related to one another in this study; the closer people feel, the more they interact. Indeed, proximity is a contributing factor of liking (Back, Schmukle, & Egloff, 2008). Emotional closeness (“How close do you feel to this person?”) and emotional distance (“How much do you miss this person?”) were positively associated with the variables of interest (i.e., desire to engage in collaborative nostalgia, motivation to connect, and state nostalgia). Again, these relationships were not influenced by the importance of the relationship or one’s satisfaction with their temporal closeness. The lack of moderation is surprising, as one would think that the desire for collaborative and motivation to connect would strengthen for meaningful relationships since people are particularly invested in maintaining close bonds, as opposed to superficial contacts. Emotional distance was uniquely related to the desire for collaborative nostalgia in regression analyses, but emotional closeness was no longer a significant contributor. The more someone is missed, the more desire for collaborative nostalgia, even when accounting for other social predictors. This was observed in Study 2, but not Study 3. In Study 3, temporal closeness negatively predicted the desire for collaborative nostalgia. While the exact predictors changed, the conclusions stay the same: disconnection is related to collaborative nostalgia. However, the inconsistency suggests this conclusion should be taken lightly until further work is conducted.

Also in line with the proposed function of shared nostalgia, an exploratory analysis of mediation effects showed that feeling emotionally disconnected is associated with a stronger desire for collaborative nostalgia, in part, because of a motivation to connect. Thus, discussing

nostalgic memories with another person could contribute to relationship maintenance. A crucial limitation of this analysis, as well as others in this set of studies, is the cross-sectional nature of the data collection. The variables composing the mediation were collected at one time; therefore, temporal precedence cannot be determined. Cross-sectional data also cannot account for all confounding variables. As such, experimental methodology is necessary to access this claim for temporal precedence and high internal validity.

Although a sense of connection and disconnection were both associated with an aspiration for collaborative nostalgia, motivation to connect, and state nostalgia, the pattern is generally consistent with a need to sustain close relationships. For instance, those that have a stronger sense of an emotional closeness might demonstrate an eagerness to continue that level of intimacy and connection. Relationship maintenance is a continuous process; it occurs when all in the relationship is well, too (Rusbult, Olsen, Davis, & Harmon, 2001). Similarly, those experiencing high emotional distance may desire to reach out to the individual they miss. Study 3 investigated this claim.

Given the ambiguity of correlation patterns, experimental tests of the link between collaborative nostalgia and social connectedness were conducted. In Study 3, a manipulation attempted to induce social disconnection by requesting participants recall a time they felt disconnected from a relationship. It was thought that threatening emotional connectedness would increase the desire for collaborative nostalgia, motivation to connect, and state nostalgia when controlling for affect and attachment style. However, there was no experimental evidence to support this hypothesis. The null finding could be a result of a weak manipulation; perhaps merely thinking about a struggle in the relationship was not powerful enough to establish movement on the dependent variables. There could also be ceiling effects, such that regardless of

reminders of disconnection or not, the person is a close attachment that the participant desired to connect with. Study 3 did provide some, albeit correlational, indications that emotional distance is related to proactive social behaviors. The mediation analysis from Study 2 was replicated; the motivation to connect mediated the relationship between missing a close relationship and the desire for collaborative nostalgia. As previously discussed, this correlational finding supports the proposed function of shared nostalgia; however, the correlational nature of the mediation requires experimental or longitudinal evidence to properly assess the function.

Study 4 experimentally manipulated two forms of nostalgia to examine its impact on felt intimacy. It was hypothesized that discussing a collaborative nostalgic event with a close other would show the highest levels of intimacy, compared to discussing a personally nostalgic event or ordinary event with that close relationship. Although the manipulation induced nostalgia in both nostalgia conditions, the conditions did not significantly differ in the outcome of interest: reported intimacy. Past literature on social reminiscence is inconsistent with this null result. Research on shared reality (i.e., I-share), for example, finds that people sharing an experience (e.g., laughing together at the same joke) fosters a sense of connectedness (Alea et al., 2015; Bazzini et al., 2007; Beike et al., 2016; Condon et al., 2015; Pinel et al., 2006; Norrick, 1997). Two individuals recounting a collaborative nostalgic memory, as one condition did in Study 4, would likely feel a sense of shared reality. Moreover, Beike and colleagues (2017) reported that speaking of “We” memories, as opposed to “Me” memories promoted closeness. The idea of “We” and “Me” memories is similar to the current research’s description of collaborative nostalgia and personal shared nostalgia, respectively. Because nostalgia and reminiscence are slightly different concepts, it is possible that shared nostalgia is fundamentally different in a way that would influence its effects on closeness and intimacy. What is more likely, however, is that

the study design allowed for ceiling effects. Since the conversations occurred within close relationships, perhaps intimacy could not be raised any higher than it already was; the means of each condition were very close to the maximum choice on the intimacy scales. Considering the extensive research demonstrating that individual reflection on nostalgic memories induces a sense of social connectedness and promotes social approach (e.g., Wildschut et al., 2018), one would expect that another possible result of Study 4 would show that both shared nostalgia conditions raised intimacy compared to the ordinary event, but that there would be no significant differences between the two forms of shared nostalgia. Since the manipulation did induce nostalgia, no movement on social measures provides further support that ceiling effects may have occurred. It is also possible that a Type II error occurred because not enough participants were recruited to reach sufficient power. In other words, the effect may be there, but the study was not powerful enough to statistically detect it. Future studies should continue to conduct experiments on shared nostalgia, utilizing proper sample sizes and alternative manipulations and dependent variables.

Limitations

Methodological issues (e.g., ceiling effects, lack of sufficient power) present challenges for the interpretation of experimental results. In all the reported studies, participants were asked to generate a close other themselves. Assigning participants to think of a close or more distant relationship could improve the existing methodology. Future work should also utilize stronger manipulations with recommended sample sizes to assess the effects of collaborative nostalgia on intimacy between people. Because ceiling effects on reported intimacy were observed when participants talked with a close other, perhaps other, less meaningful relationships should be considered. Assessing less meaningful bonds could address another possible function of shared

nostalgia: to form social bonds. Another limitation of the research is the generalizability of the results to a larger population, considering the samples. Samples from Studies 1 and 4 consisted of Midwestern undergraduate psychology students and Studies 2 and 3 consisted of AMT participants. While AMT participants are considered more ethnically and socioeconomically diverse than a student sample (Casler, Bickel, & Hackett, 2013), all participants tested were from a Western nation, and likely to be Western, Educated, Industrial, Rich, and Democratic (WEIRD; Henrich, Heine, & Norenzayan, 2010). As such, the conclusions drawn in this research extend to a narrow subset of the world's population. It should be noted, however, that the nostalgic experience does not largely differ as a function of culture (e.g., Wildschut et al., 2006). Regardless, research in other demographic populations is necessary to confirm the same is true of shared nostalgia.

Conclusion

In the present research, four studies initiated the empirical exploration of shared nostalgia, with a particular focus on collaborative nostalgia. The purpose of this research was to examine the following questions: What is shared nostalgia? Is shared nostalgia prevalent? What is the function of shared nostalgia? Although the two experiments failed to support the claim that a function of shared nostalgia is to maintain social bonds, correlational evidence does suggest this function. Specifically, emotional distance is related to an increased desire for collaborative nostalgia, through a motivation to connect; shared nostalgia may, indeed, be a relationship maintenance strategy. Future research should continue to examine these ideas from an experimental or longitudinal perspective. Additionally, this work focused on close relationships. Other relationships should also be considered. Can personal shared nostalgia impact intimacy between strangers? Can it assist in strengthening the relationship between acquaintances? Future

work could also investigate instances of shared nostalgia in externally valid environments, such as in a daily diary study. The current research provides the building blocks for an expanded understanding of nostalgia.

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APPENDIX A. NOSTALGIC EXPERIENCE

Instructions: Nostalgia is defined as a “sentimental longing for one’s past”, or as feeling sentimental for a fond and valued memory from one’s personal past. Nostalgic memories are sometimes brought up when we talk with friends and family. Tell us about a nostalgic memory you discussed with others.

1. Please tell us about a nostalgic memory you discussed with others.
2. Was the person you told your nostalgic memory to involved in that memory? (1 = *Yes*, 2 = *No*)
3. If the person was in the memory, how central were they? (1 = *Not at all*, 5 = *A great deal*)

APPENDIX B. FREQUENCY OF SHARED NOSTALGIA.

Instructions: Which of the following occurs most often?

- I talk about a nostalgic memory to someone that wasn't in the memory.
- I talk about a nostalgic memory with someone that was in the memory.
- I reflect on a nostalgic memory by myself.

APPENDIX C. PERSONAL SHARED NOSTALGIA

Instructions: When talking with friends, family, or strangers, we sometimes bring up nostalgic memories that the person we are talking to did not experience themselves. Remember, nostalgia is a sentimental longing for the past. For example, imagine you were in a conversation with a friend discussing the memory of a vacation you took that the friend was not there to experience. You might share particular details from that special event in your life and express how it made you feel. Please respond to the questions with the following scale: 1 = *Never*, 2 = *Rarely*, 3 = *Sometimes*, 4 = *Always*, 5 = *Often*).

1. How often do you share personally nostalgic memories with loved ones that AREN'T in the memory?
2. How often do you share personally nostalgic memories with acquaintances that AREN'T in the memory?
3. How often do you share personally nostalgic memories with strangers that AREN'T in the memory?
4. Please list all the feelings and emotions that you have when you discuss a personal nostalgic memory with another person (someone who is NOT in the memory).

Instructions: Please rate the extent to which discussing a personally nostalgic memory with another person (someone who IS NOT in the memory) makes you feel the following emotions. Please respond to the questions with the following scale: 1 = *Never*, 2 = *Rarely*, 3 = *Sometimes*, 4 = *Always*, 5 = *Often*).

1. Excited
2. Motivated or energetic
3. Proud
4. Happy
5. Comforted or warm
6. Calm or relaxed
7. Wishful
8. Emotional or sentimental
9. Bittersweet or mixed feelings
10. Thoughtful
11. Longing or yearning
12. Pain or anxiety
13. Lethargic or lazy
14. Regret
15. Lonely
16. Sad or depressed
17. Homesick
18. Meaningful

Instructions: Please respond to the questions with the following scale: 1 = *Not at all*, 7 = *Very much*).

1. How significant is it for you to discuss a personally nostalgic memory with another person (someone who IS NOT in the memory)?
2. How prone are you to discussing a personally nostalgic memory with another person (someone who IS NOT in the memory)?
3. How valuable is nostalgia with others (someone who IS NOT in the memory)?

APPENDIX D. COLLABORATIVE NOSTALGIA

Instructions: When talking with friends, family, or strangers, we sometimes bring up nostalgic memories that the person we are talking to was involved. Remember, nostalgia is a sentimental longing for the past. For example, imagine you were in a conversation with a friend discussing the memory of a vacation the two of you took together. You might share particular details from that special event in your life and express how it made you feel. Please respond to the questions with the following scale: 1 = *Never*, 2 = *Rarely*, 3 = *Sometimes*, 4 = *Always*, 5 = *Often*).

1. How often do you share personally nostalgic memories with loved ones that ARE in the memory?
2. How often do you share personally nostalgic memories with acquaintances that ARE in the memory?
3. How often do you share personally nostalgic memories with strangers that ARE in the memory?
4. Please list all the feelings and emotions that you have when you discuss a personal nostalgic memory with another person (someone who IS in the memory).

Instructions: Please rate the extent to which discussing a personally nostalgic memory with another person (someone who IS in the memory) makes you feel the following emotions. Please respond to the questions with the following scale: 1 = *Never*, 2 = *Rarely*, 3 = *Sometimes*, 4 = *Always*, 5 = *Often*).

1. Excited
2. Motivated or energetic
3. Proud
4. Happy
5. Comforted or warm
6. Calm or relaxed
7. Wishful
8. Emotional or sentimental
9. Bittersweet or mixed feelings
10. Thoughtful
11. Longing or yearning
12. Pain or anxiety
13. Lethargic or lazy
14. Regret
15. Lonely
16. Sad or depressed
17. Homesick
18. Meaningful

Instructions: Please respond to the questions with the following scale: 1 = *Not at all*, 7 = *Very much*).

1. How significant is it for you to discuss a personally nostalgic memory with another person (someone who IS in the memory)?
2. How prone are you to discussing a personally nostalgic memory with another person (someone who IS in the memory)?
3. How valuable is nostalgia with others (someone who IS in the memory)?

**APPENDIX E. EXPERIENCES IN CLOSE RELATIONSHIP SCALE (ECR-SHORT
FORM; WEI, RUSSELL, MALLINCKRODT, & VOGEL, 2007)**

Instructions: The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it (1 = *Strongly disagree*, 7 = *Strongly agree*).

1. It helps to turn to my romantic partner in times of need.
2. I need a lot of reassurance that I am loved by my partner.
3. I want to get close to my partner, but I keep pulling back.
4. I find that my parents don't want to get as close as I would like.
5. I turn to my partner for many things, including comfort and reassurance.
6. My desire to be very close sometimes scares people away.
7. I try to avoid getting too close to my partner.
8. I do not often worry about being abandoned.
9. I usually discuss my problems and concerns with my partner.
10. I get frustrated if romantic partners are not available when I need them.
11. I am nervous when partners get too close to me.
12. I worry that romantic partners won't care about me as much as I care about them.

**APPENDIX F. TEMPORAL CLOSENESS, EMOTIONAL DISTANCE, AND
EMOTIONAL CLOSENESS**

Instructions: Please think about a living close friend or family member.

1. What is this person's first name?
2. What is the nature of your relationship?
 - i. Mother
 - ii. Father
 - iii. Sister
 - iv. Brother
 - v. Grandparent
 - vi. Extended family (e.g., cousin, aunt/uncle, etc.)
 - vii. Friend
 - viii. Romantic partner
 - ix. Other: _____
3. How important is this relationship to you? (1 = *Not very important*, 7 = *Very important*)
4. How often do you meaningfully interact with this person? (1 = *I interact with this person less than once a month*, 2 = *I interact with this person once a month*, 3 = *I interact with this person less than once a week, but at least once a month*, 4 = *I interact with this person at least once a week*, 5 = *I interact with this person once a day*, 6 = *I interact with this person multiple times a day*)
5. How much do you miss this person? (1 = *Not very much*, 7 = *Very much*)
6. How close do you feel to this person? (1 = *Not very much*, 7 = *Very much*)
7. How satisfied are you with how often you meaningfully interact with this person? (1 = *not very satisfied*, 7 = *very satisfied*)
8. To what extent is COVID-19 a barrier to you interacting with this person? (1 = *Not very much*, 7 = *Very much*)

APPENDIX G. DESIRE FOR COLLABORATIVE NOSTALGIA

Instructions: Nostalgia is defined as a sentimental longing for one's past, or as feeling sentimental for a fond and valued memory from one's personal past. Recall the close friend or family member you thought of before and please rate the extent to which you agree or disagree with the following items (1 = *Strongly disagree*, 5 = *Strongly agree*).

1. I wish I could discuss shared nostalgic memories with this person.
2. Discussing nostalgic memories I share with this person is important to me.
3. Talking about shared nostalgic memories with this person does not interest me.
4. I want to talk with this person about nostalgic memories we share together.

**APPENDIX H. MOTIVATION (ADAPTED FROM THE FRIENDSHIP-APPROACH
SCALE; ELLIOT, GABLE, & MAPES, 2006 AND SOCIAL GOAL STRIVING;
ABEYTA, ROUTLEDGE, & JUHL, 2015)**

Instructions: Think back to the living close friend or family member you thought of before. Respond to the following statements based on the extent to which they are true of you (1 = *Not very true of me*, 7 = *Very true of me*).

1. I want to contact this person.
2. I want to deepen my relationship with this person.
3. I want to share fun and meaningful experiences with this person.
4. I will dedicate time to connecting with this person.
5. I will make an effort to connect with this person.

APPENDIX I. NOSTALGIA INVENTORY (BATCHO, 1995)

Instructions: This is a questionnaire designed to measure what you are feeling AT THIS MOMENT. Please indicate how nostalgic you are for each of the 20 persons, situations, or events below. The best answer is what you feel is true at this moment. Remember, nostalgia is a sentimental longing for one's past (1 = *Not at all nostalgic*, 5 = *Very nostalgic*).

1. My family
2. Vacations I went on
3. Places
4. Music
5. Someone I loved
6. My friends
7. Things I did
8. My childhood toys
9. The way people were
10. My heroes/heroines
11. Feelings I had
12. My school
13. Having someone to depend on
14. Not having a worry
15. The way society was
16. My pets
17. Not knowing sad or evil things
18. TV shows, movies
19. My family house
20. My church/religion

APPENDIX J. EMOTIONAL DISTANCE MANIPULATION

1. Describe your relationship with that person and what makes that relationship special.
2. Threat condition for randomly assigned half of sample: Every relationship experiences challenges that can make you feel disconnected from one another. Recall the close friend or family member you described before. Discuss a situation or challenge in this relationship that has made you feel emotionally distant or disconnected from one another.

**APPENDIX K. POSITIVE AND NEGATIVE AFFECT SCHEDULE (PANAS; WATSON,
CLARK, & TELLEGEN, 1988)**

Instructions: This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and indicate to what extent you have felt this way right now (1 = *Very slightly or not at all*, 10 = *Extremely*).

1. Interested
2. Distressed
3. Excited
4. Upset
5. Strong
6. Guilty
7. Scared
8. Hostile
9. Enthusiastic
10. Proud
11. Irritable
12. Alert
13. Ashamed
14. Inspired
15. Nervous
16. Determined
17. Attentive
18. Jittery
19. Active
20. Afraid

APPENDIX L. SHARED NOSTALGIA MANIPULATION

Collaborative nostalgia condition: Nostalgia is defined as a ‘sentimental longing for one’s past’, or as feeling sentimental for a fond and valued memory from one’s personal past. Nostalgic memories are sometimes brought up when we talk with friends or family. When talking with friends, family, or strangers, we sometimes bring up nostalgic memories that the person we are talking to was involved in. For example, imagine you were in a conversation with a friend discussing the memory of a vacation the two of you took together. You might then share particular details from that event and express how it made you feel.

Contact a close friend or family member with either a phone call or a virtual contact platform (e.g., FaceTime, Snapchat video call, Facebook video call, Duo). For the next 10 minutes, please discuss a nostalgic memory you share together. Please do not discuss anything else in the conversation.

Personal nostalgia condition: When talking with friends, family, or strangers, we sometimes bring up nostalgic memories that the person we are talking to did not experience themselves. Remember, nostalgia is a sentimental longing for the past. For example, imagine you were in a conversation with a friend discussing the memory of a vacation you took that the friend was not there to experience. You might then share particular details from that event and express how it made you feel.

Contact a close friend or family member with either a phone call or a virtual contact platform (e.g., FaceTime, Snapchat video call, Facebook video call, Duo). For the next 10 minutes, please discuss a nostalgic memory you have that person did not experience. Please do not discuss anything else in the conversation.

Ordinary condition: When talking with friends, family, or strangers, we sometimes bring up events that occurred throughout our week. These are experiences you would describe as normal or typical.

Contact a close friend or family member with either a phone call or a virtual contact platform (e.g., FaceTime, Snapchat video call, Facebook video call, Duo). For the next 10 minutes, please discuss something that happened to you this week. Please do not discuss anything else in the conversation.

APPENDIX M. SHARED NOSTALGIA MANIPULATION CHECK

1. Please describe in detail what you discussed with the person you called.
2. How nostalgic are you feeling right now? (1 = *Very slightly or not at all*, 5 = *Extremely*)

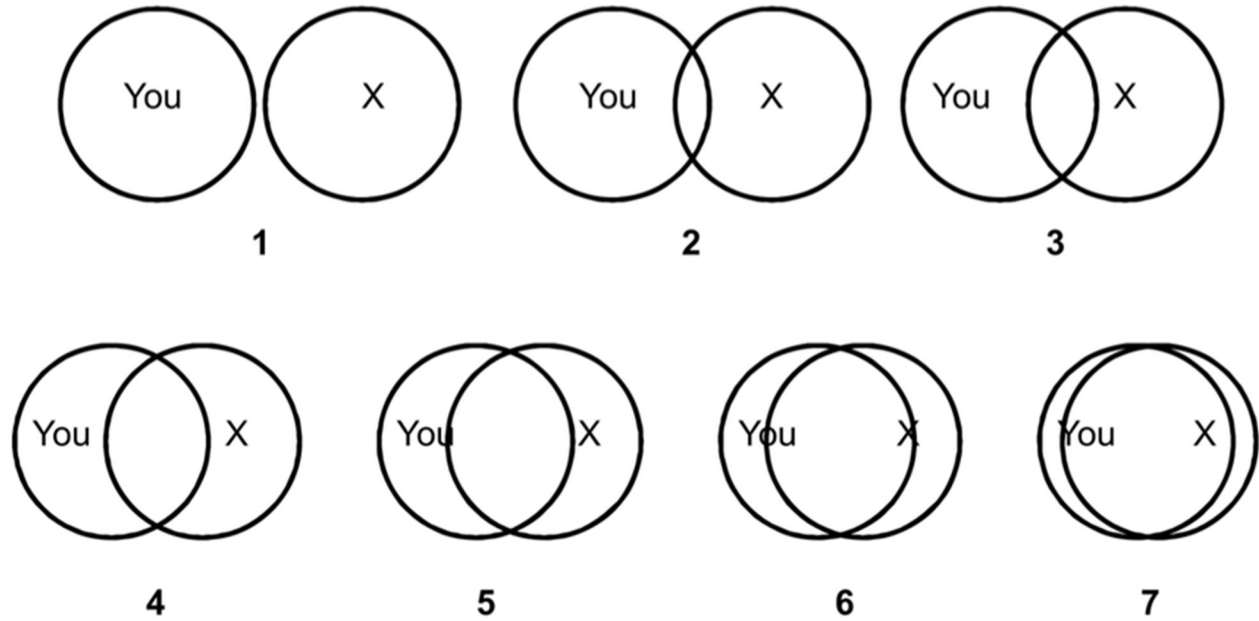
APPENDIX N. EMOTIONAL INTIMACY SCALE (SINCLAIR & DOWDY, 2005)

Instructions: Consider how well the following statements describe your feelings RIGHT NOW about the person you spoke to on the phone/video. Think in terms of the quality of your relationship with this person in answering these items. (1 = *Rarely*, 2 = *A little bit of the time*, 3 = *A moderate amount of the time*, 4 = *Quite a bit of the time*, 5 = *A great deal of the time*)

1. This person completely accepts me as I am.
2. I can openly share my deepest thoughts and feelings with this person.
3. I know this person cares deeply for me.
4. I know this person would willingly help me in any way.
5. I feel my thoughts and feelings are understood and affirmed by this person.

APPENDIX O. INCLUSION OF OTHER IN THE SELF SCALE (IOS; ARON, ARON, & SMOLLAN, 1992)

Instructions: In the diagram below, there are two circles, one that represents you and one that represents the person you called, as signified by an X.



1. Which picture best describes your relationship with the person you called? (1 = *No overlap*, 2 = *Little overlap*, 3 = *Some overlap*, 4 = *Equal overlap*, 5 = *Strong overlap*, 6 = *Very strong overlap*, 7 = *Most overlap*)