THE ROUTLEDGE HANDBOOK OF NOSTALGIA

The Routledge Handbook of Nostalgia serves as a guide to the complex and often contradictory concept of nostalgia, as well as the field of "nostalgia studies" more broadly.

Nostalgia is an area of intense interest across several disciplines as well as within society and culture more generally. This handbook brings together an international, interdisciplinary team of researchers to survey the current landscape and identify common trends, achievements, and gaps in existing literature. Comprising 45 chapters, the volume covers the following topics:

- Disciplinary perspectives of nostalgias including philosophy, history, literature, and psychology.
- Conceptual aspects of nostalgia including homesickness, temporality, affectivity, and memory.
- Historical and political dimensions such as afro-nostalgia, populism, feminism, and queer nostalgia.
- Spatial and material aspects of nostalgia including ruins, regionalism, and objects.
- Media-related nostalgia such as analogue and digital nostalgia, reboots, revivals, gaming, and graphic novels.

Essential reading for students and researchers working in nostalgia studies, this book will also be beneficial to related disciplines such as philosophy, anthropology, geography, history, and literature; cultural, media, heritage, museum, and film studies courses; and more generally for readers interested in how the past is represented and used in the present.

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THE ROUTLEDGE HANDBOOK OF NOSTALGIA

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CONTENTS

Contents

Contents

Contents

5

PSYCHOLOGY AND NOSTALGIA

A Primer on Experimental Nostalgia Inductions

Tim Wildschut and Constantine Sedikides

Traditionally, psychologists have followed two approaches to understanding how emotions influence the way in which people think, feel, and act. The correlational approach has examined the role of naturally occurring emotions in psychological functioning, whereas the experimental approach has involved the systematic manipulation or induction of emotions to test their effects (Cronbach, 1957; Joseph et al., 2020). Of these two approaches to studying emotions, the experimental one allows for stronger causal inferences and has been widely embraced across the field of psychology as a result. The remarkable proliferation of experimental procedures for inducing the complex emotion of nostalgia, a sentimental longing or wistful affection for one's past, illustrates the popularity of this approach.

The rich diversity of experimental nostalgia inductions is indicative of a booming research area but also raises questions concerning their similarities, differences, and potential applications. To address these questions, we present a 2 × 2 taxonomy of common experimental inductions of personal nostalgia (Table 5.1). This taxonomy distinguishes between inductions that are based on vivid recall and inductions that rely on sensory stimuli. In addition, the taxonomy incorporates a cross-cutting distinction between idiographic and nomothetic approaches (Allport, 1937). The idiographic approach focuses on the characteristics of unique individuals and their distinctive autobiographies. Idiographic nostalgia inductions are, in one way or another, tailored to each individual research participant. By contrast, the nomothetic approach focuses on characteristics shared by classes or cohorts, where the individual is seen as an exemplar of these classes or cohorts. Nomothetic nostalgia inductions, then, are tailored to groups of research participants based on commonalities in their experiences, perceptions, and feelings. The 2 × 2 taxonomy serves as a convenient organizing framework for our primer on nostalgia inductions but, given space limitations, is not meant to be exhaustive.

Beyond the practical purpose of providing valuable insight for future researchers into the strengths and limitations of extant nostalgia inductions, our chapter makes a broader point. Specifically, in choosing which manipulation to implement, researchers have to consider various demands or desiderata, such as achieving high statistical power (i.e., selecting a strong induction), securing internal validity (i.e., being able to conclude that a change in the dependent variable was caused solely by the independent variable), and establishing external validity (i.e., being in a position to generalize one's findings outside the experimental context

54

Table 5.1 A 2 × 2 Taxonomy of Nostalgia Inductions

Induction type	Sense	Idiographic	Nomothetic	Key references
Vivid recall		Event reflection task		Wildschut et al. (2006, Studies 5–7)
Vivid recall		Nostalgia prototype task		Hepper et al. (2012, Study 7)
Sensory	Auditory	Song lyrics		Routledge et al. (2011, Study 2)
Sensory	Auditory	Songs		Abeyta and Routledge (2016, Study 1)
Sensory	Auditory		Songs	Cheung et al. (2013, Study 3)
Sensory	Visual		Photographs	Oba et al. (2016)
Sensory	Gustatory	Food		Reid et al. (2023, Study 1)
Sensory	Olfactory			
Sensory	Multisensory		Film	Wulf et al. (2019, Study 2)

in which they were observed). We submit that no single nostalgia induction method can entirely satisfy all of these requirements. Balancing the different demands involves inevitable tradeoffs that can only be resolved through programmatic research.

Vivid Recall Inductions

Event Reflection Task. The most frequently implemented nostalgia induction is the event reflection task (ERT). This idiographic, vivid recall task was introduced in three experiments by Wildschut et al. (2006, Studies 5–7). In the first of these experiments (Study 5), participants in the nostalgia condition were instructed to: "Please bring to mind a nostalgic event in your life. Specifically, try to think of a past event that makes you feel most nostalgic." In the control condition, instructions read: "Please bring to mind an ordinary event in your daily life—an event that took place in the last week." Participants then wrote down four keywords relevant to the event and took a few moments to think about the event and how it made them feel. The manipulation significantly increased self-report nostalgia, as indexed with a manipulation check (e.g., "Right now, I am feeling quite nostalgic"). Furthermore, participants in the nostalgia (compared to control) condition scored higher on brief measures of positive affect (e.g., "happy"), self-esteem (e.g., "high self-esteem"), and social connectedness (e.g., "loved").

In the next experiment (Study 6), Wildschut et al. (2006) modified the ERT in two ways to strengthen the manipulation. First, the instructions in both the nostalgia and control condition were more specific. For example, in the nostalgia condition, participants were given a definition on nostalgia ("According to the Oxford Dictionary, 'nostalgia' is defined as a sentimental longing for the past") and instructed to recall "... a nostalgic event that has personal meaning for you." In the control condition, the new instructions emphasized that participants should reflect on an ordinary event "as though you were an observer of the event rather than directly involved" and to give a "purely factual and detailed accounts (e.g., like in a court of law, avoiding emotionally expressive words)." The second change was that, rather than merely listing keywords, participants were instructed to write about their experience for 6 minutes.

The revised instructions had the intended effect of strengthening the manipulation; the difference between the nostalgia and control conditions on the manipulation check was much larger in the second (Cohen's *d* = 2.24) than first (*d* = 1.32) experiment. In addition, key findings from the first experiment were replicated: nostalgia (compared to control) increased positive affect (assessed with the Positive and Negative Affect Schedule; Watson et al., 1988), self-esteem (measured with the Rosenberg Self-Esteem Scale; Rosenberg, 1965), and social connectedness (indexed with the attachment avoidance and attachment anxiety subscales of the Experiences in Close Relationships Scale—Revised; Fraley et al., 2000). Arguably, however, the new instructions introduced confounds. For example, only participants in the nostalgia condition were instructed to recall an event that had personal meaning and only participants in the control condition were instructed to reflect on the event as though they were an observer. These differences (rather than differences in nostalgia) may have accounted for the effects of the manipulation.

The comparison between the first and second experiment illustrates the tradeoffs researchers encounter in experimental design. More detailed and specific instructions may strengthen the manipulation and thereby increase statistical power (i.e., the probability of rejecting the null hypothesis when the null hypothesis is false), but they may also introduce confounds and thereby reduce the study's internal validity. In their third experiment (Study 7), Wildschut et al. (2006) prioritized internal validity and, accordingly, reverted to the "clean" instructions used in the first experiment. By so doing, they sacrificed power; the strength of the manipulation, as indexed by the manipulation check, was reduced (*d* = 0.81). To mitigate this anticipated loss of power, the researchers more than doubled the sample size of the third experiment compared to the preceding ones. Results revealed that, as hypothesized, participants in the nostalgia (compared to control) condition reported a higher level of interpersonal competence (assessed with the Initiation, Disclosure, and Emotional Support subscales of the Interpersonal Competence Questionnaire; Buhrmester et al., 1988).

Threats to Internal Validity and ERT Variations. The robust finding that ERT-induced nostalgia increases positive affect (Leunissen et al., 2021) creates a potential threat to internal validity, as it raises the possibility that differences in positive affect (rather than nostalgia) account for effects of the manipulation. Research has established unique effects of nostalgia above and beyond positive affect, often by measuring and then statistically controlling for (i.e., partialling) positive affect (Turner et al., 2013; van Dijke et al., 2015; Zhou et al., 2012). An alternative approach is to compare the nostalgia condition to a control condition that is designed to evoke positive affect. Stephan et al. (2015, Study 5) implemented the latter strategy to rule out the possibility that the beneficial effect of ERT-induced nostalgia on inspiration was due to higher positive affect in the nostalgia (than control) condition. In the nostalgia condition, participants received the standard instructions ("Please bring to mind a nostalgic event in your life. Specifically, try to think of a past event that makes you feel most nostalgic"). In the control condition, however, they were instructed to recall a lucky (rather than ordinary) event in their life ("Please bring to mind a lucky event in your life. Specifically, try to think of a positive past event that was brought on by chance rather than through your own actions"). As intended, self-report nostalgia (e.g., "Right now, I am feeling quite nostalgic") was significantly higher in the nostalgia than lucky-event condition, but the two conditions did not differ on self-report positive affect (e.g., "Thinking about this event makes me feel happy"). Crucially, this modified nostalgia induction significantly increased inspiration (e.g., "Thinking about this event makes me feel filled with inspiration"), ruling out positive affect as a confounding variable and, hence, strengthening internal validity. (For other

successful implementations of the lucky-event control condition, see Sedikides et al., 2016; van Tilburg et al., 2015; Wildschut et al., 2014; Zou et al., 2019. For ERT studies with desired-future-event and recent-positive-event control conditions, see Routledge et al., 2012.)

Threats to External Validity and ERT Variations. The ERT has been criticized for instructing participants to recall their *most* nostalgic experience. Newman et al. (2020) proposed that these instructions solicit unusual experiences in the interest of strengthening the manipulation and that such experiences may differ from common, everyday nostalgic experiences. These researchers thus challenged the external validity of ERT experiments, that is, the degree to which the findings can be generalized beyond the experimental context in which they were observed, in particular to real-life settings (i.e., ecological validity). We agree that the purpose of instructing participants to recall their most nostalgic experience is to strengthen the manipulation. We do not agree that it is unusual, in real-life, for people to bring to mind and reflect on their most nostalgic experiences—they evidently do so with some regularity (Hepper et al., 2021; Wildschut et al., 2006). Nevertheless, the challenge to the ERT's external validity necessitated an empirical rather than argumentative response. To this end, Kelley et al. (2022, Study 2) modified the ERT. In the control condition, participants received the standard instructions. In the nostalgia condition, however, they were instructed simply to recall a nostalgic (rather than *most* nostalgic) event. Bringing to mind nostalgic experiences (not just one's most nostalgic experience) is relatively common in everyday life. In an undergraduate sample, 79 percent of respondents reported experiencing nostalgia at least once a week (Wildschut et al., 2006, Study 2) and, in a lifespan sample, 61 percent of respondents indicated experiencing nostalgia this often (Hepper et al., 2021). Whereas Kelley et al., arguably traded some of the manipulation's strength for higher external validity, participants in the modified nostalgia (compared to control) condition still scored significantly higher on self-report nostalgia as well as psychological wellbeing, consistent with research using the standard ERT instructions (Sedikides et al., 2016). Zhou et al. (2022, Study 4) likewise modified the ERT, instructing participants to recall a *typical* nostalgic experience. Compared to participants in the control condition (who received standard instructions), those in the modified nostalgia condition scored significantly higher on happiness.

Finally, in light of its many extant variations, not all of which we have space to review, it is perhaps more accurate to describe the ERT as a class of manipulations than as a discrete exemplar. For researchers who are planning to use the ERT, this diversity may raise the question which version is most suited to their purposes. As a point of departure, we recommend the standard ERT instructions presented by Sedikides et al. (2015, Appendix B), which we have reproduced in Table 5.2. We encourage researchers to modify these instructions to fit their research objectives, assuming there are compelling reasons for doing so.

Nostalgia Prototype Task. Whereas some threats to the ERT's internal and external validity have been addressed by modifying its instructions, other limitations are inherent to the task and therefore more intractable. For instance, instructing participants to recall a nostalgic event may introduce demand characteristics, a task feature that signals the study's purpose, thereby influencing participants' responses (Orne, 1962). Demand characteristics would involve participants' prior conceptions of nostalgia, namely, that they should feel emotional afterward. Also, instructing participants to recall a nostalgic relies on participants' familiarity with the term "nostalgia."

To mitigate these vulnerabilities, Hepper et al. (2012) developed an idiographic manipulation based on lay persons' conceptions of the prototypical nostalgia experience: the nostalgia prototype task. The first step in this process was to identify central and peripheral features

Table 5.2 Standard Event Reflection Task Instructions

Nostalgia condition	Control condition
According to the Oxford Dictionary, "nostalgia" is defined as a "sentimental longing for the past." Please think of a nostalgic event in your life. Specifically, try to think of a past event that makes you feel most nostalgic. Bring this nostalgic experience to mind. Immerse yourself in the nostalgic experience. How does it make you feel? Please spend a couple of minutes thinking about how it makes you feel. Please write down four keywords relevant to this nostalgic event (i.e., words that describe the experience).	Please bring to mind an ordinary event in your life. Specifically, try to think of a past event that is ordinary. Bring this ordinary experience to mind. Immerse yourself in the ordinary experience. How does it make you feel? Please spend a couple of minutes thinking about how it makes you feel. Please write down four keywords relevant to this ordinary event (i.e., words that describe the experience).
Using the space provided below, for the next few minutes, we would like you to write about the nostalgic event. Immerse yourself into this nostalgic experience. Describe the experience and how it makes you feel.	Using the space provided below, for the next few minutes, we would like you to write about the ordinary event. Immerse yourself into this experience. Describe the experience and how it makes you feel.

of the nostalgia prototype. With that goal in mind, participants in Study 1 were instructed to list all characteristics and features that, in their opinion, describe and distinguish nostalgia. Participants listed a total of 1752 exemplars, which were coded into 35 unique categories or features. Study 2 participants used an 8-point scale to rate how closely each feature was related to their view of nostalgia, with a median split on these ratings yielding 18 central and 17 peripheral features. The next two studies revealed that central (compared to peripheral) nostalgia features were more readily recalled in a free-recall task and more often falsely recognized in a recognition task (Study 3), and associated more frequently and quickly with nostalgia in a word classification task (Study 4). Central (compared to peripheral) features also more effectively conveyed a sense of nostalgia when embedded in short vignettes (Study 5) and better characterized personal nostalgic (compared to ordinary) experiences (Study 6).

Having carefully validated the central and peripheral features, Hepper et al. (2012) then implemented the nostalgia prototype task in Study 7. The researchers presented participants with a list of either central or peripheral nostalgia features and asked them to think of a related event from their personal life, making this an idiographic induction, notwithstanding the fact that it relied on a widely shared view of the prototypical nostalgic experience. Specifically, instructions read: "Please bring to mind an event in your life that is relevant to or characterized by at least five of these features." Participants circled all the features that were relevant to their event. Examples of central features are: "reminiscence," "keepsakes, "familiar smells," and "rose-tinted memories." Examples of peripheral features are: "daydreaming," "wishing," "bittersweet," and "achievements." Importantly, the term "nostalgia" did not appear in the instructions or the list of features in either condition, removing demand characteristics involving participants' prior conceptions of the emotion and rendering their familiarity with the term irrelevant. To facilitate a comparison with past ERT studies, the researchers also included two further conditions instructing participants to bring to mind a

nostalgic event or an ordinary event. All participants wrote a brief description of the event and their experience as they remembered it.

Planned orthogonal contrasts revealed that, as intended, self-report nostalgia was significantly higher in the pooled central-features and nostalgic-event conditions than in the pooled peripheral-features and ordinary-event conditions. Self-report nostalgia did not differ significantly between the central-features and nostalgic-event conditions, or between the peripheral-features and ordinary-event conditions. Likewise, participants in the pooled central-features and nostalgic event conditions scored significantly higher on positive affect, self-esteem, social connectedness, and meaning in life. The central-features and nostalgic-event conditions did not differ on any of these outcome measures. However, participants in the peripheral-features condition scored significantly lower on positive affect and self-esteem than those in the ordinary-event condition. Thus, the central-features condition produced similar psychological benefits as the nostalgic-event condition, and greater psychological benefits than the peripheral-features condition.

Turner and colleagues modified the nostalgia prototype task to investigate the role of nostalgia in stigma reduction. In particular, Turner et al. (2018, Experiment 2) hypothesized that recalling a nostalgic experience involving an older adult would promote positive attitudes toward older adults in general (i.e., reduce ageism). All participants were instructed to think of someone over the age of 65 they knew well. After writing down the name of this older adult, participants received a list of central or peripheral nostalgia features (randomly assigned). Next, they were instructed to bring to mind and write a description of an event in their life that involved the older adult they identified, which was characterized by at least five of the listed features. Two judges coded the event descriptions for expressions of nostalgia. As intended, narratives written by participants in the central-features condition expressed more nostalgia than those written by participants in the peripheral-features condition. Importantly, participants in the central-features (compared to peripheral-features) condition reported more positive attitudes toward older adults.

In a similar vein, Turner et al. (2022) implemented the nostalgia prototype task to test whether nostalgia could reduce stigmatization of overweight individuals. The procedure was identical to the above-described one used by Turner et al. (2018, Experiment 2), only this time participants were instructed to bring to mind an overweight person they knew well. Self-report nostalgia was significantly higher in the central-features than peripheral-features condition. Further, nostalgia improved intergroup outcomes. Specifically, participants in the central-features (compared to peripheral-features) condition held a more positive attitude toward overweight people in general, assigned less responsibility to overweight people for their excess weight, and reduced their seating distance to an overweight person in an anticipated interaction.

Sensory Inductions

Programmatic research frequently involves the implementation of multiple, diverse manipulations of the independent variable in a series of mutually reinforcing studies. The logic underpinning this approach is that, to the extent that the manipulations differ substantially, they are unlikely to all share the same flaws. Accordingly, the studies draw strength from each other by addressing their respective, specific limitations. Experimental research on nostalgia is illustrative of this approach, as evidenced by the diverse array of manipulations that have been developed in addition to vivid recall tasks. Prominent among these alternative

inductions are those based on sensory stimuli, including visual (photographs), gustatory (food), and, in particular, auditory (music) stimuli.

Music-Evoked Nostalgia. Music that was popular during one's youth, and thus likely nostalgic, continues to shape their musical preferences throughout life (Holbrook, 1993). For example, Holbrook and Schindler (1989) instructed participants, who ranged in age from 16 to 86 years, to rate popular songs from different eras. Participants preferred songs that were popular during their late teens, rather than songs from their early childhood or adulthood. Similarly, Schulkind et al. (1999) found that older adults preferred music that was popular during their youth, compared to music from later stages of their lives. Nostalgia also features prominently among the emotional reactions evoked by music. Janata et al. (2007) used a large collection of popular music excerpts to examine emotional reactions to music-evoked autobiographical memories. Participants listened to 30 randomly selected excerpts and, after each excerpt, indicated which emotions they experienced. Out of 34 emotions, nostalgia ranked third, with only happiness and youthfulness being experienced more frequently. Subsequent research further bolstered the music—nostalgia link. Juslin et al. (2008) demonstrated that nostalgia was the fourth most frequently experienced emotion during musical emotion episodes (i.e., moments that featured music) in the course of everyday life, after happiness, contentment, and interest. Zentner et al. (2008) distinguished between musically relevant emotions (e.g., joy, inspiration) and non-musical emotions (e.g., guilt, jealousy). They found that, out of 66 musically relevant emotions, nostalgia was the eighth most frequently reported. Music, then, is an ever-present source of nostalgia (Barrett et al., 2010; Sedikides et al., 2022) and has been harnessed to create ecologically valid and impactful experimental manipulations.

Idiographic Music Inductions. The first attempt to manipulate nostalgia through music used song lyrics rather than musical excerpts (Routledge et al., 2011, Study 2). We treat this as a music induction given that "auditory cortical areas can be recruited even in the absence of sound and that this corresponds to the phenomenological experience of imagining music" (Zatorre & Halpern, 2005, p. 9). The experiment involved a preliminary session and an experimental session, separated by a one-week interval. In the preliminary session, all participants listed three songs that made them feel nostalgic. During the one-week interval, the researchers randomly assigned participants to conditions and, for those in the nostalgia condition, retrieved lyrics to a song they had previously identified as personally nostalgic. Those in the control condition were yoked to (i.e., paired with) one of the participants in the nostalgia condition and assigned to read the same lyrics as them the following week. Thus, during the experimental session, each participant in the control condition read the same lyrics as one in the nostalgia condition, but only those in the nostalgia condition had previously identified the song as being personally nostalgic. In this way, the content of the lyrics in both conditions was held constant, augmenting internal validity. The manipulation was successful, as indicated by a significant difference between the nostalgia and control conditions on self-report nostalgia (i.e., the manipulation check). Results also supported the main hypothesis, namely, that reading personally nostalgic (compared to control) lyrics would increase meaning in life (e.g., "I have a good sense of what makes my life meaningful"). Other researchers subsequently used the same lyrics manipulation to test (and support) the hypotheses that nostalgia increases optimism (Cheung et al., 2013, Study 4), inspiration (Stephan et al., 2015, Study 4), and self-continuity (Sedikides et al., 2016, Experiment 1).

As encouraging as the lyrics induction findings are, in real-life people tend to listen to songs rather than read lyrics. Arguably, then, the lyrics induction achieves high internal

validity (by using identical stimuli in the nostalgia and control conditions) at a cost to ecological validity. Abeyta and Routledge (2016, Study 1) introduced a more ecologically valid idiographic music induction by having participants listen to songs on YouTube. Participants in the nostalgia condition selected a song that made them feel nostalgic, whereas those in the control condition selected a song that they enjoyed. Next, participants reported their level of nostalgia (i.e., a manipulation check) and their subjective age ("At times, people feel older or younger than they actually are. At this moment, what age do you feel?") Participants in the nostalgia condition indicated that they felt more nostalgic and younger than did those in the control condition.

In a variation of Abeyta and Routledge's (2016) procedure, Evans et al. (2022, Study 3) manipulated romantic nostalgia by assigning participants to list the name and performing artists of a song that reminded them of their current romantic relationship and made them feel nostalgic or a song they enjoyed and was unrelated to their current romantic relationship. The researchers then played this song for participants on Spotify. As hypothesized, listening to the nostalgic (compared to enjoyable) song increased romantic connectedness, relationship optimism, closeness, satisfaction, compassionate love, and passionate love.

To examine the psychological benefits of nostalgia for people living with dementia, Ismail et al. (2018, Experiment 2) combined the best features of the lyrics and YouTube/Spotify inductions. Specifically, they used the yoked design of Routledge et al. (2011), whereby the same stimuli are presented to participants in the nostalgia and control conditions, but, rather than readings lyrics, participants actually listen to songs, as in Abeyta and Routledge's (2016) study. Dementia is a neurodegenerative syndrome that causes deterioration of multiple higher cortical functions, including autobiographical memory, comprehension, language, and judgment. Yet, people with mild or moderate stages of dementia can retrieve autobiographical memories (El Haj et al., 2019), in particular musical ones (Jacobsen et al., 2015), and value doing so (El Haj & Antoine, 2017). To test if nostalgia is beneficial for this population, Ismail et al. asked people living with mild to moderate dementia to identify three nostalgic songs at the time of recruitment. In the subsequent experimental session, participants randomly allocated to the nostalgia condition listened to one of their nostalgic songs. Participants allocated to the control condition listened to the same song as the person in the nostalgia condition to whom they were yoked. The experimenter was unaware of the condition to which participants had been assigned. The music induction was successful; participants in the nostalgia condition reported feeling more nostalgic than those in the control condition. Furthermore, those in the nostalgia (compared to control) condition reported higher levels of social connectedness, meaning in life, self-continuity, self-esteem, and optimism, as well as marginally more positive (but not negative) affect.

Nomothetic Music Inductions. Adopting a nomothetic approach, Cheung et al. (2013, Study 3) used pretested (rather than self-selected) songs to induce nostalgia in a sample of Dutch radio listeners. The songs, released in 1974 and 1965 respectively, were performed by the same artist, Wim Sonneveld. In the nostalgic song, *Het Dorp* (*The Village*), the artist reflects longingly on his childhood growing up in a small village in the south of The Netherlands. This song was selected for its strong nostalgic connotations. In the cheerful control song, *Nikkelen Nelis* (*Nickeled Nelis*), the artist regales the listener with a tongue-in-cheek description of a flirtatious woman. This song was selected to equate the two songs on positive affect and, by so doing, increase internal validity. In an online pretest, a sample of participants drawn from the target population of Dutch radio listeners listened to both songs in counterbalanced order and rated the extent to which they produced nostalgia ("nostalgia"

and "longing for the past") and positive affect ("happiness" and "positive mood"). As intended, the nostalgic song evoked significantly more nostalgia than the cheerful song, and the songs were approximately matched in terms of positive affect. In the main study, the researchers randomly assigned participants to listen to the nostalgic or cheerful song. Participants accessed the online stimulus materials by following a link posted on the website of a popular Dutch radio show. Those who listened to the nostalgic (compared to cheerful) song felt more nostalgic and reported higher levels of self-esteem and optimism. Replicating the pretest, the two songs evoked similar levels of positive affect. In a similar vein, other researchers have successfully used music inductions by having Chinese (Zhang et al., 2021, Studies 1–2) and U.K. (Yin et al., 2023) participants listen to songs with or without nostalgic connotations, demonstrating beneficial effects of music-induced nostalgia on recycling behavior and parent–child tradition transfer, respectively.

A limitation of these nomothetic music inductions is that, by typically using only one song in the nostalgia and control conditions (cf. Zhang et al., 2021, Study 1), they are vulnerable to the pitfalls of insufficient stimulus sampling (Judd et al., 2012). A single stimulus cannot adequately capture the theoretical domains of interest and, hence, results are inevitably affected by distinctive features of the selected stimuli. Future research could address this limitation by using extensive stimulus sampling to assemble representative collections of nostalgic and control songs.

Photograph-Induced Nostalgia. Photographs serve as powerful reminders of important experiences, relationships, and identities from one's past (Coleman & Wiles, 2020), and are among the most effective stimuli for evoking emotions associated with autobiographical memories (Carretero et al., 2020; Conway, 2001). Photographs stimulate mental imagery, contributing to the specificity, vividness, and realism of autobiographical memories (Rubin et al., 2003). Oba et al. (2016; see also, Yang et al. 2021) capitalized on these properties to induce nostalgia in an fMRI study, adopting a nomothetic approach. As nostalgic stimuli, they selected photographs of typical objects and scenes their Japanese participants would have encountered during their time in elementary school (e.g., pencil case, classroom bulletin board). The control pictures depicted contemporary equivalents of those scenes and objects (e.g., a contemporary pencil case, train station bulletin board). The researchers first assembled a pool of 100 photographs of objects and scenes that were familiar to their target population from their time in elementary school and 100 equivalent control photographs. From this pool, they then selected 26 highly nostalgic pictures and 26 control pictures, based on the results of a pretest. When participants viewed nostalgic (compared to control) photographs, fMRI scans revealed increased activation in both memory and reward systems, including the hippocampus, substantia nigra/ventral tegmental area, and ventral striatum (for a review of neuroimaging studies of nostalgia, see Yang et al., 2022).

Redhead et al. (2023) used a similar nomothetic procedure in two experiments examining the effect of nostalgic (compared to control) landmarks on navigational performance. Participants had to learn a route through a computer-generated maze using landmarks in the form of wall-mounted photographs. In the nostalgia condition, these photographs were of popular music artists and TV characters from five to ten years ago (e.g., the actor Matt Smith as the character Dr. Who). In the control condition, there were recent photographs of these same artists and characters (e.g., the actor Jody Whittaker as the character Dr. Who). In both experiments, participants in the nostalgic (compared to control) condition reported feeling more nostalgic and took less time to complete the maze.

Food-Evoked Nostalgia. The consumption of food is strongly connected to autobiographical memory. In *Du côté de chez Swann* (*Swann's way*), the first volume of Proust's (1922/1960) *À la recherche du temps perdu* (*In search of lost time*), the author famously described how the taste and aroma of a tea-soaked madeleine (a traditional small cake) instantly transported him back to his childhood, triggering a flood of vivid and detailed recollections, encompassing his aunt's bedroom, house, garden, and even the entire village of Combray and its inhabitants. Since Proust's writings, research has confirmed the strong association between taste, scent, and memory. For instance, carers report that people living with dementia experience joy, a sense of belonging, and a reawakening of pleasant memories when they are served traditional foods that are associated with celebrations and seasons, linked with specific geographic locations, or prepared according to their heritage (Hanssen & Kuven, 2016).

Reid et al. (2023, Study 1) used an idiographic induction to examine the hedonic signature and psychological benefits of food-evoked nostalgia. They randomly assigned participants to visualize (i.e., taking a bite of, chewing, tasting) and write about eating a personally nostalgic food or a food they consumed regularly. Examples of nostalgic foods that participants brought to mind included ice cream, spaghetti, and banana bread, whereas examples of regular foods included bagels, potatoes, and apples. Although participants did not actually consume the food, we classify this as a sensory induction because perception and mental imagery elicit similar responses. For example, imagining eating delicious food increases salivation (Dadds et al., 1997) and repeatedly imagining eating a food makes people less hungry for it (i.e., habituation; Morewedge et al., 2010). Participants in the nostalgic-food condition reported greater nostalgia than those in the regular-food condition, attesting to the manipulation's effectiveness. Visualizing nostalgic (compared to regular) food evoked more positive, but not negative, emotions and increased positive affect, social connectedness, and (marginally) meaning in life.

A limitation of Reid et al.'s (2023) nostalgia manipulation is that it involved visualization rather than actual food consumption. Hence, the external validity of the induction is restricted by participants' inability to see, smell, feel, and taste the food. In a correlational study, Reid et al. (Study 3) took the first promising steps toward a solution by asking participants to consume a range of flavored jelly beans (e.g., peach, cinnamon, buttered popcorn, watermelon, coconut, banana) and rate how much nostalgia each evoked. This procedure could pave the way for an experimental manipulation using pretested nostalgic versus non-nostalgic flavors.

Multisensory Nostalgia. A meta-analysis of emotion inductions identified film as one of the most powerful procedures (Joseph et al., 2020). Thus far, however, only two nomothetic studies have harnessed this impactful, multisensory medium to induce nostalgia. Hussain and Lapinski (2017) created a nostalgic video message to target smoking attitudes and behavioral intentions. The video included a collage of nostalgic images and nostalgia-evoking statements gathered from blogs (e.g., "A person's mind is at ease when remembering the past"). The control video explained how to change car oil. Watching the nostalgic (compared to car oil) video led to more negative attitudes toward smoking but did not affect participants' behavioral intentions to smoke.

Wulf et al. (2019, Study 2) showed participants in the nostalgia condition a compilation of theme songs from German children's television programs that were popular in the 1980s and 1990s (e.g., *Maya the Honey Bee, The Flintstones*). Participants in the control condition watched a compilation of theme songs from German children's programs that were popular

at the time of data collection (e.g., *All Hail King Julien, Dragons*). The theme songs in these two conditions were selected on the basis of a pretest. In a third condition, the researchers presented participants with film trailers that have been used as examples of meaningful movies in previous studies (e.g., *Amelie, Big Fish*). Participants in the nostalgia condition reported higher nostalgia and self-continuity (i.e., a connection between their past and present self) than participants in the control and meaningful conditions, as well as more enjoyment than participants in the control (but not meaningful) condition.

Discussion

Our objective in this chapter was to provide an overview of similarities, differences, and potential applications of common experimental nostalgia inductions. To achieve this, we proposed a 2 × 2 taxonomy that classifies the inductions in terms of two characteristics (Table 5.1). The first characteristic involves a distinction between vivid recall inductions and sensory inductions. The second, cross-cutting characteristic involves a distinction between idiographic and nomothetic inductions. For example, the ERT and food induction differ with regard to the first characteristic, because the former involves vivid recall and the latter sensory stimulation. Yet, they are similar with regard to the second characteristic, as both are idiographic inductions. Our review revealed a plethora of creative nostalgia inductions. This broad range of procedures will facilitate the programmatic, methodologically diverse research necessary to balance the various practical considerations guiding experimental design, such as statistical power, internal validity, and external validity.

Our taxonomic approach also identified omissions, represented by empty cells in Table 5.1. One important omission relates to olfactory stimuli (scent), and we purposely included an empty row in Table 5.1 to highlight this issue. Scents have a strong link to emotional autobiographical memories (Erlichman & Halpern, 1988). For example, Herz (2004) examined the emotional qualities of autobiographical memories evoked by items (e.g., campfire, popcorn) presented in olfactory (i.e., oil-based beads), visual (i.e., 5s film clip), or auditory (i.e., 5s sound clip) form. Scent-evoked memories were more emotional and evocative than those evoked by visual or auditory cues. In a correlational study, Reid et al. (2015) demonstrated the close relation between scent and nostalgia. Participants smelled 12 different scented oils in random order (e.g., cotton candy, pumpkin pie spice) and indicated how nostalgic each scent made them feel (1 = *not at all*, 7 = *very much*). They rated over half (54 percent) of the scent presentations at or above the midpoint of the nostalgia scale (1 = *not at all*, 7 = *very much*). These findings invite an experimental nostalgia induction using scents. Redressing other omissions in Table 5.1 can likewise generate new induction procedures.

Our taxonomy was not meant to be exhaustive or to hem in future research. Space limitations prevented us from including additional characteristics and studies. Table 5.3 presents a summary of excluded studies that induced nostalgia in relation to specific social contexts, including romantic nostalgia, organizational nostalgia, and collective (often national) nostalgia. To incorporate these studies, an additional distinction could be made in the taxonomy between inductions that pertain to specific social contexts and those that do not. We also did not review the sizeable consumer-behavior literature on the effects of nostalgic (compared to non-nostalgic) messaging on the persuasiveness of advertisements. Research in this tradition has revealed that consumers find nostalgic product advertisements more persuasive than non-nostalgic ones, and make higher donations in response to nostalgic than non-nostalgic

Table 5.3 Examples of Other Nostalgia Inductions

Construct manipulated	Brief description of induction	Type	Key references
Romantic nostalgia	Ps reflected on a nostalgic or ordinary experience with their current romantic partner, and wrote about it.	I	Evans et al. (2022, Study 2)
Organizational nostalgia	Ps reflected on a nostalgic or ordinary experience in their organization, and wrote about it.	I	Leunissen et al. (2018, Studies 2–3)
Collective (national) nostalgia	Ps reflected on a nostalgic or ordinary event that they had experienced together with other compatriots.	I	Dimitriadou et al. (2019, Exp. 2–3); Wildschut et al. (2014, Study 3)
Nostalgic product advertisement	In a Chinese restaurant, a menu item was paired with nostalgic ("grandma's," "nostalgic") or descriptive ("tasty," "delicious") labels.	N	Zhou et al. (2019, Exp. 4)
Nostalgic charity appeals	The nostalgic appeal included the phrase: "Those were the days: Restoring the past for children in Wenchuan." The control appeal included the phrase: "Now is the time: Build the future for children in Wenchuan."	N	Zhou et al. (2012, Study 5)

Note: Type: I = idiographic; N = nomothetic. Ps = Participants. Exp. = Experiment.

charity appeals (for reviews, see Cheng & Yan, 2023; Weingarten & Wei, 2023). We present two illustrative studies in Table 5.3.

Overall, this chapter serves as a foundation for understanding and exploring experimental research on nostalgia. We hope that it will encourage ongoing innovation in this domain, leading to greater insight into how this complex emotion shapes people's thoughts, feelings, and behaviors.

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