The motivational potency of nostalgia: The future is called yesterday

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Abstract

The emotion of nostalgia, a sentimental longing for one's personal past, has motivational implications. We outline these implications for various forms of approach motivation. One such form is generalized motivation. In particular, nostalgia fosters a sense of youthfulness (i.e., lower subjective age, feeling alert and energetic), boosts inspiration (i.e., transcendence of mundane preoccupations and awareness of new possibilities), and encourages (financial) risk-taking. Another form is localized motivation. In particular, nostalgia promotes a growth orientation (e.g., state authenticity or intrinsic self-expression, growth-oriented self-perceptions and behavioral intentions), galvanizes intrinsic motivation, and strengthens the pursuit of one's important goals. The final form is action-oriented motivation. In particular, nostalgia cements an employee's resolve to stay with the organization (i.e., weakens turnover intentions), increases the propensity to help and actual helping, and contributes indirectly to

behavior change (i.e., reduction of problematic behavior such as gambling and drinking). When relevant, we discuss the processes through which nostalgia impacts on motivation, and highlight downstream consequences.

This chapter is concerned with the interplay between emotion and motivation. The emotion in question is nostalgia. After a historical precis, we define nostalgia, clarify its properties, and proceed to highlight how it affects motivation.

1. An excursion into nostalgia's Past

1.1 A synopsis of 2800 years of history

In his epic *Odyssey*, conceived approximately 2800 years ago, Homer depicts the eponymous hero as often pining for his homeland and loved ones during his 10-year sea voyage. This pining does not hold Odysseus back; instead, it invigorates him to fend off angry Gods, monsters, and motley evil-doers, who conspire to obstruct his return to Ithaca. Hankering for things past energizes the cunning itinerant to invent solutions to an ever-changing and threatening landscape, making steady strides toward his eventual homecoming.

The construct of yearning for the past all but disappeared from literary and scholarly discourse, despite fleeting references to it by Hippocrates, Cesar, and the psalms of the Bible. It was brought to the fore almost 2500 years after the Homeric epic by a medical student at the University of Basel, Switzerland, who wrote his dissertation on nostalgia. The student was Johannes Hofer, and the compound term he coined consisted of the Greek words "nostos" (desire to return home) and algos (pain). So, nostalgia was the psychological suffering levied by one's desire to return home.

Hofer (1934) endeavored to catalogue the symptoms that Swiss mercenaries were experiencing while stricken by nostalgia. These symptoms included despondency, weeping, anorexia, and suicidal ideation, prompting Hofer to conclude that nostalgia was a neurological or brain disease restricted to the Swiss. Consensus was swiftly built around these notions, with only the causes of disease being under debate. Hofer believed it was due to the "continuous vibration of animal spirits through those fibers of the middle brain in which impressed traces of ideas of the Fatherland still cling" (p. 384). Scheuchzer (1732, cited in Davis, 1979), a physician, maintained that the disease was inflicted by "a sharp differential in atmospheric pressure causing excessive body pressurization, which in turn drove blood from the

heart to the brain, thereby producing the observed affliction of sentiment" (cited in Davis, 1979, p. 2). Other physicians pontificated that the disease originated in the incessant clanging of cowbells in the Alps, which wreaked irreparable damage to the eardrum and brain cells. The view of nostalgia as a neurological or brain disease lasted until the 19th century, although its exclusivity to the Swiss was challenged: It had become clear that other nationalities—French and American soldiers—were also susceptible to it.

The new wave of thinking in late 19th century and early 20th century was equally damning of nostalgia. It was now considered a psychiatric disorder, marked by symptoms of anxiety, melancholia, loss of appetite, and insomnia. The psychodynamic perspective, dominant in mid-20th century, did not help, portraying nostalgia as a "monomaniacal obsessive mental state causing intense unhappiness" that arises from a subconscious desire to reinstate one's fetal state (Fodor, 1950, p. 25). By the end of the 20th century, nostalgia was still tainted by clinical connotations, but (mercifully!) confined to four marginalized populations: soldiers, seamen, immigrants, and first-year boarding or university students. Normal adults were shielded from it (for historical overviews, see Batcho, 2013; Dodman, 2018; Sedikides, Wildschut, & Baden, 2004.)

1.2 An inferential error: Nostalgia as a coping mechanism

From 1688 onward, nostalgia has been considered a medical disease, a psychiatric disorder, a clinical condition, or, at best, a gloomy and defeatist emotion. We suggest that these maligned characterizations of nostalgia are due to an inferential error. Scholars, and assorted thinkers or commentators, observed a co-occurrence of nostalgia and dysfunctional symptoms (e.g., anxiety, depression, bouts of weeping, loss of appetite, insomnia, anorexia, suicidal ideation). They rushed to conclude that nostalgia was the cause of such symptoms. Yet, they could have as easily concluded that the symptoms triggered the onset of nostalgia. After all, the selectively studied populations (e.g., mercenaries, soldiers, immigrants) were undergoing considerable, if not extreme, stress in striving to overcome highly adverse, and sometimes life-threatening, circumstances in unfamiliar or pugnacious environments. Nostalgia for them was a safe heaven, a relief from psychological turbulence.

In the last few years, the idea that nostalgia acts as a coping resource in times of adversity has gained considerable traction. Experiments have furnished the decisive evidence. Inducing nostalgia (vs. control) does not engender negative

symptoms or states. However, inducing psychological discomfort evokes nostalgia, which subsequently palliates the discomfort (Sedikides et al., 2015; Wildschut, Sedikides, & Cordaro, 2011). Loneliness is a case in point. Inducing loneliness (vs. control) elicits both lack of social support and nostalgia. Nostalgia, in turn, acts to replenish one's reservoir of social support, thus counteracting loneliness (Van Tilburg, Sedikides, & Wildschut, 2018; Zhou, Sedikides, Wildschut, & Gao, 2008). Similar findings documenting the regulatory or homeostatic role of nostalgia have been obtained with discomforts such as meaninglessness, death cognitions, self-discontinuity, boredom, and even inclement weather (Sedikides & Wildschut, 2018; Sedikides, Wildschut, Routledge, & Arndt, 2015; Van Tilburg, Sedikides, & Wildschut, 2018).

1.3 Nostalgia is for the future

The sociologist Fred Davis, in his (1979) treatise on nostalgia, pioneered another utility of the emotion. In particular, he likened the cognitive storage of nostalgic experiences with monetary deposits (p. 420):

"It (nostalgia) reassures us of past happiness and accomplishment; and, since these still remain on deposit, as it were, in the bank of our memory, it simultaneously bestows upon us a certain worth, irrespective of how present circumstances may seem to question or obscure this. And current worth, as our friendly bank loan officer assures us, is titled to at least some claim on the future as well."

In Davis's (1979) opinion, then, nostalgic memories are not for the past; they are for the future. The memories serve as a wellspring, a vitamin that nourishes the individual toward grappling with the vagaries of the future. We concur with Davis's insight, an insight expressed also by literary figures such as the poet Salinas (2010), who mused "The future is called yesterday." Nostalgia, we posit, cultivates a planful and future-oriented mindset. It motivates and helps the individual to shape, in part, their destiny. We will elaborate on the motivational vigor of nostalgia after we define and clarify the emotion.

2. Definition and properties of nostalgia

The New Oxford Dictionary of English (1998, p. 1266) labels nostalgia "a sentimental longing or wistful affection for the past." Other dictionary definitions concur. For example, the Merriam-Webster Dictionary (2019) labels it "a wistful or excessively sentimental yearning for return to or of some past period or irrecoverable condition," the English Language

Learners Dictionary (2019) labels it "pleasure and sadness that is caused by remembering something from the past and wishing that you could experience it again," and Dictionary.com (2019) labels it "a wistful desire to return in thought or in fact to a former time in one's life, to one's home or homeland, or to one's family and friends; a sentimental longing or yearning, bittersweetness, and the positivity to be found in the nostalgic episode." These definitions converge in highlighting sentimental longing, ambivalence, and the desire for a fleeting retreat to one's past. Empirical findings, reviewed below, elucidate further the properties of the emotion.

2.1 Prototype, content, and word-level text analyses

The results of prototype analyses, in which lay persons were asked to sort out the central features from the peripheral features of the construct "nostalgia," align with lexicographic wisdom (Hepper, Ritchie, Sedikides, & Wildschut, 2012), as do the results of content analyses (Abeyta, Routledge, Roylance, Wildschut, & Sedikides, 2015; Wildschut, Sedikides, Arndt, & Routledge, 2006) or word-level text analyses (i.e., the Linguistic Inquiry and Word Count—Pennebaker, Chung, Ireland, Gonzalez, & Booth, 2007; see Wildschut, Sedikides, & Robertson, 2018) of nostalgic narratives. We note several key findings below.

Nostalgia is an emotion (i.e., it is felt) involving high-level appraisal, as it comprises fond or rose-colored recollections of one's personal past. This past is cherished: It entails social relationships (e.g., family, friends, partners) and keepsakes, as well as momentous incidents (e.g., anniversaries, graduations, holiday celebrations, vacations). The self (i.e., the narrator) is the protagonist in those incidents (hence, nostalgia is an identity-based emotion), but close others are almost always present occupying important roles (hence, nostalgia is a social emotion). In addition, nostalgia is bittersweet, albeit predominantly positive: It is mostly characterized by warmth, happiness, and joy for a meaningfully lived past, yet it is tinged with missing, sadness, and longing for moments irredeemably gone. These properties of nostalgia transcend age (Hepper, Wildschut, Sedikides, Robertson, & Routledge, 2019; Madoglou, Gkinopoulos, Xanthopoulos, & Kalamaras, 2017) and cultural (Hepper et al., 2014; Neto & Mullet, 2014) boundaries.

2.2 Appraisal techniques, multidimensional scaling analyses, and canonical correlation analyses

Additional research, using varied methodological tools, explicates the character of nostalgia. The appraisal profile of nostalgia indicates that it is

elicited by events which are pleasant but contain an irrevocable loss, are unique, and feel temporally or psychologically distant (Van Tilburg, Bruder, Wildschut, Sedikides, & Göritz, 2019). Multidimensional scaling analyses comparing and contrasting 11 self-relevant emotions document that nostalgia is a positive, low-arousal emotion; for example, it is most similar to pride, self-compassion, and gratitude, and is least similar to shame, guilt, and embarrassment (Van Tilburg, Wildschut, & Sedikides, 2018). Lastly, canonical correlation analyses reveal that nostalgia serves different autobiographical memory functions (Webster, 2003) compared to such reflections on one's past as rumination or counterfactual thinking. In particular, nostalgia involves stronger identity (i.e., drawing on memories to illuminate and explicate one's selfhood), intimacy maintenance (i.e., relying on memories to attain symbolic proximity to close others), and teach/inform (i.e., sharing memories to communicate insights about the self or life), but weaker bitterness revival (i.e., using memories to revive resentment and revenge; Cheung, Wildschut, & Sedikides, 2018).

3. Nostalgia and approach motivation

Approach motivation is defined as "the impulse to go toward" (Harmon-Jones, Harmon-Jones, & Price, 2013, p. 291) and, more specifically, as "the energization of behavior by, or the direction of behavior toward, positive stimuli (objects, events, possibilities)" (Elliot, 2006, p. 111). Approach motivation is fundamental in that it influences human functioning across many life domains and is expressed in a multitude of goals and behaviors (Elliot, 2008; Elliot & Friedman, 2007). Approach motivation can be instigated by internal, trait (Gray & McNaughton, 2000) or state (Panksepp, 1998), processes. We turned to examining the link between the emotion of nostalgia (experienced at the trait and state level) and approach motivation (also at both levels), relying on the theoretical and empirical tradition of capitalizing on emotions' action tendencies (Fredrickson, 2001; Frijda, 1987; Russell, 2009).

We found such a link. For starters, in multidimensional space, nostalgia emerges as an approach-oriented, rather than an avoidance-oriented, emotion (Van Tilburg, Wildschut, & Sedikides, 2018). Moreover, nostalgia proneness is positively associated with approach motivation (Stephan et al., 2014, Studies 1–2). Here, we operationalized nostalgia proneness with the 7-item Southampton Nostalgia Scale (Barrett et al., 2010; Routledge, Arndt, Sedikides, & Wildschut, 2008), that is, as dispositional

frequency and subjective importance of nostalgic engagement, whereas we operationalized approach motivation with the 13-item Behavioral Activation Scale (Carver & White, 1994), which consists of three dimensions: Fun Seeking (four items; e.g., "I will often do things for no other reason than that they might be fun"), Drive (four items; e.g., "I go out of my way to get things I want"), and Reward Responsiveness (five items, e.g., "It would excite me to win a contest"). To be exact, the positive association between nostalgia proneness and approach motivation only emerged for the dimensions of Fun Seeking and Drive (which are negatively correlated with avoidance orientation, whereas Reward Responsiveness is positively correlated with it; Carver & White, 1994), and above and beyond the Big Five factors (assessed with the revised Ten Item Personality Inventory; Denissen, Geenen, Selfhout, & Van Aken, 2008).

Having established the positive covariation of nostalgia and approach motivation, we wondered if the former leads dynamically to the latter (Stephan et al., 2014, Study 3). To address this question, we induced nostalgia experimentally (i.e., nostalgia as a state) via the Event Reflection Task (Sedikides, Wildschut, Routledge, Arndt, Hepper, & Zhou, 2015). Participants in the experimental condition visualized for a couple of minutes an event that made them feel nostalgic, and then produced a written narrative of this event in the next 5 min. Participants in the control condition visualized an ordinary autobiographical event for 2 min and wrote about it for 5 min. A manipulation check (e.g., "How nostalgic do you feel right now?") testified to the effectiveness of the nostalgia induction (as it did in all reported experiments). Following the Event Reflection Task, we assessed approach motivation with the three Behavioral Activation System dimensions by adding a stem to reflect a state level (i.e., "Right now …"). Nostalgia increased Fun Seeking and Drive, but not Reward Responsiveness, and did so independently of affect, be it positive or negative. The effects of nostalgia were independent of transient affect in all reported experiments. On balance, then, nostalgia galvanizes approach motivation (for a replication, see, Huang, Huang, & Wyer, 2016, Study 4).

4. Nostalgia and the many forms of approach motivation

Encouraged by the finding that nostalgia boosts approach motivation, we took steps to investigate whether and how nostalgia impacts on the many forms of approach motivation, be it generalized motivation (i.e., sense of

youthfulness, inspiration, risk-taking), localized motivation (i.e., growth orientation, intrinsic motivation, goals), or action-oriented motivation (i.e., turnover intentions, helping, behavior change). In the experimental portions of our research, we followed a standard methodological protocol: We induced nostalgia, assessed the hypothesized mechanisms (i.e., mediators), if any, and measured the pertinent form of approach motivation.

4.1 Generalized motivation

Here, we address whether the discrete emotion of nostalgia strengthens generalized motivation, and in particular youthfulness, inspiration, and risk-taking.

4.1.1 Youthfulness

People desire to reclaim their youthfulness. This desire is reflected in folklore about the "fountain of youth" (magical waters that heal ailments and recaptures one's youth; Peck, 1998) and in contemporary popular publications that promise a speedy return to one's younger self via dubious methods (Emling, 2013; Good Housekeeping, 2013). Other than conceit, however, people have defensible reasons to wish to re-capture their youthfulness. Feeling younger than one's chronological age is positively related to psychological (Hubley & Russell, 2009; Infurna, Gerstorf, Robertson, Berg, & Zarit, 2010) and physical (Boehmer, 2007; Kleinspehn-Ammerlahn, Kotter-Grühn, & Smith, 2008) health, is linked to more constructive attitudes toward aging (Kleinspehn-Ammerlahn, Kotter-Grühn, & Smith, 2008), and it improves task performance (Hughes, Geraci, & De Forrest, 2013).

Abeyta and Routledge (2016, Study 1) reasoned that nostalgia is likely to foster youthfulness. After all, not only do nostalgic reflections refer frequently to one's childhood, adolescence, or early adulthood (Hepper et al., 2012; Wildschut et al., 2006), but, importantly, they increase a sense of continuity between one's past and one's present (Sedikides et al., 2016). These researchers induced nostalgia via music. Participants in the nostalgic condition identified a nostalgic song on YouTube, whereas participants in the control condition identified a song that they had discovered recently and enjoyed. Then, all participants wrote about how the song made them feel. Finally, they indicated their subjective age ("At times, people feel older or younger than they actually are. At this moment, what age do you feel?"). Nostalgic participants reported feeling younger than controls.

In a follow-up, Abeyta and Routledge (Study 2) replicated this finding inducing nostalgia with the Event Reflection Task, and extended it by showing that nostalgic participants also felt more youthful than controls.

In their final study, Abeyta and Routledge (2016, Study 3) set to showcase the downstream implications of nostalgia-fostered youthfulness: Is it also linked with perceived health, confidence in one's physical abilities, and health-related optimism? The researchers capitalized on findings that individuals begin to feel subjectively younger as they enter middle adulthood (Galambos, Turner, & Tilton-Weaver, 2005; Rubin & Berntsen, 2006). As such, the study included only participants over the age of 40 (age range: 40–75 years).

First, Abeyta and Routledge (2016, Study 3) induced nostalgia with a modification of the Event Reflection Task. Participants in both conditions were instructed to recall memories from high school (either nostalgic or ordinary ones), thus assuring that the findings were not merely due to nostalgic recall traveling further into the past than ordinary autobiographical recall. Afterward, the researchers assessed a sense of youthfulness both with the single-item measure of Study 2 and four adjectives (i.e., alert, energetic, happy-go-lucky, rejuvenated). Next, they assessed perceived health, that is, one's appraisal of their general health status, with one item from Warner, Schwarzaer, Schüz, Wurn, and Tesch-Römer (2012; "If you compare yourself with an average person of your sex and age, how healthy are you?") and three items from the RAND Health Survey v. 1.0 (Hays, Sherbourne, & Mazel, 1993; "I am as healthy as anyone I know," "I seem to get sick a little easier than other people," "My health is excellent"). Subsequently, they assessed confidence in one's physical abilities on seven items constructed for the purposes of this study (e.g., "Lift as much as an average 20 year old of your sex can," "Run as long as an average 20 year old of your sex can," "Do as much physical activity as a 20 year old can do without getting overly fatigued or sore."). Finally, they assessed health-related optimism with two items from Warner et al. ("How do you estimate the likelihood that your health status will worsen in the near future?", "If you compare yourself with an average person of your sex and age, how likely is it for you that your health will worsen in the near future?") and one item from the RAND Health Survey v. 1.0 (I expect my health to get worse). Nostalgia (vs. control) fostered youthfulness, which in turn positively predicted subjective health, confidence in one's physical abilities, and health-related optimism.

4.1.2 Inspiration

Inspiration entails transcendence of mundane preoccupations along with awareness of new possibilities or ideas (inspired by) and a desire to enact them ("inspired to"; Thrash & Elliot, 2004). In a preliminary investigation, trait nostalgia was positively associated with both frequency and intensity of inspiration (Stephan et al., 2015, Study 1). Here, we assessed nostalgia both with the Southampton Nostalgia Scale and the Nostalgia Inventory (Batcho, 1995), where participants rated the degree to which they felt nostalgic for each of 18 aspects of their past (e.g., "My family," "My pets," "My childhood toys"). We standardized and averaged the two nostalgia scales, given their high inter-relation. We assessed inspiration with five items (e.g., "I feel inspired," "I am inspired to do something"; Thrash & Elliot, 2003) rated on frequency and intensity.

We then went ahead with experimentation (Stephan et al., 2015, Study 2). We induced nostalgia with the Event Reflection Task, and assessed state inspiration (the "inspired by" component) with three items (e.g., "Thinking about this event fills me with inspiration") that were partly based on Thrash and Elliot's (2003) Inspiration Scale. Nostalgic participants reported being more inspired than controls. We replicated conceptually this finding with the "inspired to" component of inspiration, following a nostalgia induction with the Event Reflection Task. We assessed state inspiration with five items that accompanied the stem "Right now, I feel inspired to …," with sample items being "travel overseas this summer" and "try skydiving or some other adventurous activity" (Stephan et al., 2015, Study 3).

How does nostalgia evoke inspiration ("inspired by" component)? We took our hint from theoretical proposals linking self-esteem with inspiration (McAlpine, 2011; Thrash & Elliot, 2003), and in knowledge that nostalgia elevates self-esteem (Hepper et al., 2012; Wildschut et al., 2006). Self-esteem, then, may mediate the effect of nostalgia on inspiration. But where does self-esteem come from? Theoretical accounts and empirical evidence originate self-esteem in belongingness or social connectedness (Crocker & Wolfe, 2001; Leary & Baumeister, 2000; Mahadevan, Gregg, & Sedikides, 2019; Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004), and social connectedness is a key outcome of nostalgia (Wildschut et al., 2006, 2018; Wildschut, Sedikides, Routledge, Arndt, & Cordaro, 2010; Zhou et al., 2008). Consequently, we hypothesized the following mediational path: Nostalgia will lead to higher inspiration sequentially via social connectedness and self-esteem (nostalgia ⟹ social connectedness ⟹ self-esteem ⟹ inspiration). We obtained support for this mediational sequence in two studies.

In one (Stephan et al., 2015, Study 4), we induced nostalgia by exposing participants to song lyrics (ones that they had previously identified as nostalgic vs. not), assessed social connectedness with four items ("feeling" … "connected to loved one," "protected," "loved," "I can trust others") and self-esteem with another four ("feeling" … "good about myself, "I like myself better, "I value myself more," "I have many positive qualities")—both from the State Functions of Nostalgia Scale (Hepper et al., 2012). Finally, we assessed state inspiration with the items of Study 2. In the other study (Stephan et al., 2015, Study 5), we first induced nostalgia with a variant of the Event Reflection Task, in which the control condition involved a positive (i.e., lucky) event in the participant's life. Then, we assessed social connectedness and self-esteem as in Study 4 (i.e., with items from the State Functions of Nostalgia Scale), and finally assessed inspiration as a mixture of "inspired by" and "inspired to" (i.e., "Thinking about this event makes me feel" … "filled with inspiration," "inspired to do something," "inspired to see things in new and original ways," "inspired with new ideas and insights").

4.1.3 Risk-taking

Generally, people are risk averse (Arrow, 1971; Pratt, 1964). In some circumstances, though, and especially in organizational contexts, risk-taking can be beneficial, as it can lead to opportunities or necessary reform. We reasoned that nostalgia may encourage risk- taking (Zou, Lee, Wildschut, & Sedikides, 2019). We were interested specifically in financial risk-taking, defined as behavior that entails uncertainty or outcome variability (Figner & Weber, 2011; Holton, 2004), that is, the possibility of gains as well as losses (Josef et al., 2016).

Initial findings were supportive of our reasoning (Zou, Lee, Wildschut, & Sedikides, 2018, Preliminary Investigation). We administered to a group of business owners the Southampton Nostalgia Scale and a three-item risk-taking scale (Covin & Slevin, 1989), where each item comprised a stem (e.g., "What is your preferred way of running your business?") and three response options ranging from low-risk ("explore potential opportunities gradually through cautious, incremental behavior") through a neutral midpoint ("equally the same") to high risk ("take bold, wide-ranging actions to achieve the firm's objectives"). Nostalgia proneness was positively associated with risk-taking, controlling for business characteristics (e.g., number of businesses owned, total size of business), demographics (e.g., age, gender, ethnicity, education), and the Big Five (Ten-Item Personality Inventory; Gosling, Rentfrow, & Swann, 2003).

We next examined the causal relation between nostalgia and risk-taking (Zou et al., 2018, Study 1). We manipulated nostalgia with the Event Reflection Task and measured risk-taking with the Automatic Balloon Analogue Risk Task (Pleskac, Wallsten, Wang, & Lejuez, 2008). In this task, participants are instructed to inflate 30 virtual balloons, and they choose in advance the number of pumps for each of the 30 trials. Balloons are fixed to pop at the 128th pump, although a given balloon may pop anywhere between the 1st and 128th pump. Participants are awarded £0.005 for each pump, although there is a catch: If a balloon pops, they lose all their earnings for that trial. The total number of pumps that participants choose across the 30 trials constitutes the measure of risk-taking. In our experiment, nostalgic participants chose a higher number of pumps than controls. Nostalgia begets financial risk-taking.

Why would nostalgia precipitate risk-taking? We started by identifying a key factor that fosters risk-taking, perceptions of family support. Family is considered a most important source of meaning and predicts meaning in life (Lambert et al., 2010). Moreover, family serves as a buffer against setbacks (Cai, Sedikides, & Jiang, 2013), perceptions of community members as family is positively related to risky financial decisions (Zhu, Dholakia, Chen, & Algesheimer, 2012), and perceived access to family financial support predicts higher risk-taking (Hsee & Weber, 1999). Family, then, imparts the scaffolding for financial risk-taking and cushions its downside. We further reasoned that nostalgia would solidify perceptions of family support. Nostalgic experiences feature, to a great extent, family moments (e.g., marriage, birth of a child, vacations; Wildschut et al., 2006) and cultural life scripts (e.g., Thanksgiving meals, Christmas holidays, 4th of July picnics; Berntsen & Rubin, 2004) involving family. In addition, nostalgia proneness is associated with social connectedness (Seehusen et al., 2013), and experimental inductions of nostalgia engender a sense of social connectedness (e.g., being protected and loved; Hepper et al., 2012). In all, we hypothesized that nostalgia would be associated with, or lead to, perceptions of family support, which in turn would be linked with risk-taking.

We proceeded to test this mediational model (Zou et al., 2018, Study 2) with a measurement-of-mediation design (Hayes, 2018). We assessed nostalgia proneness with the Nostalgia Inventory (Batcho, 1995). We assessed family support (e.g., "I get the emotional help and support I need from my family") with four items from the Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988). This 12-item scale measures two other sources of perceived social support, which we tested as

alternative mediators: significant other (four items; e.g., "I have a special person who is a real source of comfort to me") and friends (four items; e.g., "My friends really try to help me"). Finally, we assessed risk-taking with an investment task. Participants were asked to make 12 investment decisions, which would determine their chances of winning a $20 Amazon voucher. Specifically, they received five starter tickets and were informed that the more tickets they earned via their investment decisions, the greater their chances would be for winning the voucher. For each decision, participants chose between an option whose outcome was certain and an option whose outcome had the same expected value but higher risk. Participants went over 12 investment scenarios, a third of which represented a loss domain (e.g., "sure loss of 6 tickets" vs. "25% chance to lose 12 tickets and 75% chance to lose 4 tickets"), another third represented a gain domain (e.g., "sure gain of 6 tickets" vs. "25% chance to gain 12 tickets and 75% chance to gain 4 tickets"), and the final third represented a mixed domain (combination of losses and gains; e.g., "100% chance of no change" vs. "80% chance to lose 5 tickets and 20% chance to gain 20 tickets"). Given that domain did not moderate the relation between nostalgia and risk-taking, we formed an overall risk-taking score by averaging across domains. Family support (but not significant-other support or friend support) mediated the relation between nostalgia and risk-taking (independently of age or gender).

   This evidence, though, for the mediational role of family support was correlational. We solicited experimental evidence through an experimental-causal-chain design (Spencer, Zanna, & Fong, 2005). *First*, we manipulated nostalgia and assessed its influence on family support (i.e., the putative mediator; Zou et al., 2018, Study 3). We induced nostalgia with a variant of the Event Reflection Task, where the experimental condition (nostalgic event) was contrasted with two control conditions: an ordinary nostalgic event and a positive (i.e., lucky) nostalgic event. We assessed family support with the 4-item family subscale of the Multidimensional Scale of Perceived Social Support (Zimet et al., 1988). Nostalgia (compared to the two control conditions) raised perceptions of family support. *Second*, we manipulated family support and assessed its impact on risk taking (i.e., the putative outcome variable; Zou et al., 2018, Study 4). We induced family support by randomly assigning participants to the family-environment condition versus the own-devices condition. In the former, they contemplated an interaction with family members and briefly described it in writing, whereas, in the latter, they did the same for an occasion when they had to fend for themselves. Next, participants completed the investment decision task of Study 2

(i.e., earning tickets toward a $20 Amazon coupon). Participants in the family-environment condition took greater risk than those in the own-devices condition.

Having implemented a measurement-of-mediation design and an experimental-causal-chain design, we put it all together in a full mediation model (Zou et al., 2018, Study 5). We first manipulated nostalgia with the Event Reflection Task. Then, we measured perceived family financial support with three bespoke items: "My family would help me if I suffered a financial setback," "My family would lend me money when needed," "I can count on my family for financial support, should I ever need it." Finally, we measured risk-taking with the 3-item Investment subscale of the Domain Specific Risk-Taking scale (Weber, Blais, & Betz, 2002; e.g., "Invest 5% of your annual income in a very speculative stock"). Validating the prior findings, perceived financial support transmitted the effect of nostalgia on risk-taking.

4.2 Localized motivation

In this section, we report findings on how the emotion of nostalgia influences localized motivation (i.e., motivation in specific domains), and in particular growth orientation, intrinsic motivation, and goal-pursuit.

4.2.1 Growth orientation

Growth is defined as "the potential to cultivate inner potentialities, seek out optimal challenges, and integrate new experiences into the self-concept" (Baldwin & Landau, 2014, p. 163). Stephan, Sedikides, and Wildschut (2012, Study 2) addressed whether nostalgia increases state authenticity (i.e., the sense of a true self; Sedikides, Slabu, Lenton, & Thomaes, 2017). State authenticity involves "inner personality" (Harter, 2002) as well as acceptance and integration of one's strengths and weaknesses (Kernis & Goldman, 2006). We induced nostalgia with a variant of the Event Reflection Task that comprised two control conditions, an ordinary event and a positive event from one's life. Nostalgic (vs. control) participants reported greater state authenticity.

Baldwin, Biernat, and Landau (2015) replicated and extended these findings. They defined authenticity in terms of the intrinsic self (i.e., expression of the individual's true or core attributes) rather than the extrinsic self (i.e., the persona presented to others or influenced by demands that contradict values and goals of the intrinsic self; Schlegel, Hicks, Arndt, & King, 2009; Wood, Linley, Maltby, Baliousis, & Joseph, 2008). Baldwin et al. tested the

idea that nostalgia would be associated with and bolster the intrinsic, but not the extrinsic, self. In a correlational investigation (Study 7), they measured dispositional nostalgia with the Nostalgia Inventory (Batcho, 1995) and intrinsic self in two ways. One was a bespoke 12-item intrinsic self-expression scale (e.g., "I feel like I am free to decide for myself how to live my life, "I feel like I can pretty much be myself in my daily situations," "I wish I could get my true self back"—reverse-scored), and the other a modified version of the Measure of Authenticity in Various Social Roles (Sheldon, Ryan, Rawsthorne, & Ilardi, 1997) that assesses with five items (e.g., "I experience this aspect of myself as an authentic part of who I am," "This aspect of myself is meaningful and valuable to me") perceived authenticity in different roles (e.g., romantic partner, friend, student). Dispositional nostalgia was positively associated with intrinsic self-expression. The authors replicated these findings with state nostalgia, intrinsic self-expression, and extrinsic self-expression. Specifically, participants brought to mind a personal memory, reflected on it, and provided a written description of it. Next, they rated their memory for felt nostalgia (i.e., "This memory makes me feel nostalgic/wistful/sentimental/a longing for my past"), and completed in-the-moment measures of the intrinsic and extrinsic self. The intrinsic self-measure was the 45-item Authenticity Inventory (Kernis & Goldman, 2006), which assesses subjective authenticity in one's life (e.g., "For better or for worse I am aware of who I truly am"). The extrinsic self-measure was the 20-item Extrinsic Contingency Focus Scale (Williams, Schimel, Hayes, & Martens, 2010), which assesses an individual's focus on meeting extrinsic demands (e.g., "I work hard at things because of the social approval it provides"). Nostalgia was positively related to the intrinsic self and negatively related to the extrinsic self.

Baldwin et al. (2015, Study 2) proceeded to examine the causal influence of nostalgia on the intrinsic and extrinsic self. First, they induced nostalgia with the Event Reflection Task. Then, they assessed the intrinsic self with an adapted version of Kernis and Goldman's (2006) Authenticity Inventory. In both conditions, participant reflected on their described event, brought to mind an image of themselves at event occurrence, and rated the authenticity of that self (e.g., "For better or for worse I was aware of who I truly was"). Finally the researchers assessed the current (e.g., "who you are today") extrinsic self via the Extrinsic Contingency Focus Scale (Williams et al., 2010). Nostalgia (vs. control) bolstered the intrinsic self; that is, nostalgic participants rated their past selves as more authentic. In addition, nostalgia (vs. control) weakened the extrinsic self. In a conceptual replication (Study 3), nostalgia (induced via the Event Reflection Task) increased the

accessibility of the intrinsic self-compared to control. In particular, nostalgic participants evinced a higher word count and more writing time (Reber, Wurtz, & Zimmermann, 2004), and also evinced a greater proportion of cognitive words (e.g., descriptions (e.g., "know," "think," "because"); Reber et al., 2004), in their intrinsic self-descriptions.

As a reminder, growth is also defined as "the potential to … seek out optimal challenges" (Baldwin & Landau, 2014, p. 163). Laypersons use growth-related words (e.g., change, future) to describe nostalgia (Hepper et al., 2012, Studies 1–2), but such linguistic expressions may reflect normative expectations. Experimental tests are more compelling, and they were provided by Baldwin and Landau (2014). In Study 1, they induced nostalgia with the Event Reflection Task and then assessed, using the 10-item Curiosity and Exploration Inventory (Kashdan et al., 2009), growth-oriented self-perceptions, that is, willingness to engage in general challenging and novel experiences (e.g., "I am the kind of person who embraces unfamiliar people, events, and places," "I view challenging situations as an opportunity to grow and learn"). They also assessed, using the 19-item Exploration Inventory (Green & Campbell, 2000), growth-oriented behavioral intentions, that is, willingness to engage in concrete challenging and novel experiences (e.g., "I would like to spend a semester studying abroad," "I would like to try bungee jumping, skydiving, or other adventurous activities"). Nostalgic (vs. control) participants manifested stronger growth-related self-perceptions and behavioral intentions. Baldwin and Landau (2014) replicated these results in Study 2.

4.2.2 Intrinsic motivation

The Oxford dictionary defines intrinsic motivation as "An incentive to do something that arises from factors within the individual …". (http://www.oxfordreference.com/view/10.1093/oi/authority.20110803100009153). This "something" needs to be an activity that the individual finds inherently interesting and enjoyable (Deci, Connell, & Ryan, 1989). Intrinsic motivation has implications for exertion of effort toward a relevant activity or task, and is a key construct in the scholarly tradition of achievement motivation (Elliot & Harackiewicz, 1996). Intrinsic motivation is boosted under challenging circumstances, that is, when the individual's resources narrowly outweigh task demands, given that such conditions allow for her or his strengths to come to the fore (i.e., self-expression or past-self directedness). Conversely, intrinsic motivation is undercut in threatening circumstances, that is, when task demands outweigh the individual's resources, given

that such conditions will hinder her or his strengths (Covington & Müeller, 2001; Rawsthorne & Elliot, 1999).

We hypothesized that nostalgia kindles intrinsic motivation, as it facilitates past-self directedness, especially in challenging organizational settings (Van Dijke, Leunissen, Wildschut, & Sedikides, 2019). We defined past-self directedness as the process of focusing on memories pertinent to the long-term self (i.e., one's meaningful and persistent goal-relevant activities) rather than the episodic or working self (i.e., one's momentary goals, such as taking out the garbage; Conway, Singer, & Tagini, 2004). Memories pertinent to the long-term self are particularly likely to be integrated and consolidated into one's self-concept. We defined challenging organizational settings in terms of affording low (vs. high) interactional justice, that is, being the victim of untruthful, impolite, or disrespectful treatment by organizational authorities (e.g., managers; Colquitt, 2012). We tested and supported our hypothesis in three studies.

In Study 1 (Van Dijke et al., 2019), an Experience Sampling Method Study, we assessed interactional justice with a 9-item scale (Colquitt, 2001), where each item was preceded by the stem: "The following items are about your supervisor." A sample item is "Has he/she treated you in a polite manner?". Starting a week later, and for 10 consecutive workdays, we texted employees at a random time, asking them to complete as soon as possible two measures on their smartphones. One assessed nostalgia with two items: "At this moment, I am having nostalgic feelings," "At this moment, I feel nostalgic" (Hepper et al., 2012). The other assessed intrinsic motivation with three items, preceded by the stem: "Please, indicate for each item to what extent it describes why you are doing this work." The items were: "Because I have fun doing this job," "Because I enjoy this work very much," "For the moments of pleasure that this job brings me" (Gagné et al., 2010). The relation between nostalgia and intrinsic motivation was heightened among employees who experienced low (vs. high) interactional justice. Stated otherwise, high (vs. low) nostalgia predicted stronger intrinsic motivation in employees who experienced low interactional justice.

In Study 2 (Van Dijke et al., 2019), a field experiment, we were concerned with the causal influence of nostalgia on intrinsic motivation and with the latter's downstream consequences for work effort. At Time 1, we assessed interactional justice as in Study 1 (Colquitt, 2001). At a later point, we manipulated nostalgia with the Event Reflection Task every morning for five consecutive workdays. Then, at a random interval during the workday, we assessed employees' intrinsic motivation (as before;

Gagné et al., 2010) and work effort ("I strived as hard as I can to be successful in my work," "I really exerted myself to the fullest at work"; Brown & Leigh, 1996). Nostalgia strengthened intrinsic motivation, which subsequently heightened work effort, in employees who experienced low (vs. high) interactional justice.

In Study 3 (Van Dijke et al., 2019), an experiment, we aimed to examine not only the causal role of nostalgia, but also the causal role of interactional justice, on intrinsic motivation. In addition, we tested the replicability of prior findings using a behavioral, rather than a self-report, measure of intrinsic motivation. Finally, we assessed the putative mechanism through which nostalgia strengthens intrinsic motivation (when interactional justice is low), namely, past-self directedness. We manipulated nostalgia with the Event Reflection Task. Afterward, we manipulated interactional justice by randomly assigning participants to conditions in which they learned that the experimenter had not been candid (low interactional justice) vs. had been candid (high interactional justice) in communicating with them about a bonus (Colquitt, 2012). Then, we assessed intrinsic motivation with an anagram task (Zapata-Phelan, Colquitt, Scott, & Livingston, 2009). This task, for which participants did not receive a reward, resulted in four inter-related indices (i.e., delay prior to task commencement, duration of task engagement, number of anagrams participants attempted to solve, and number of anagrams participants solved correctly) that we aggregated. Finally, we indexed past self-directedness by coding participants' autobiographical narratives. Nostalgia strengthened intrinsic motivation in the presence of low (vs. high) interactional justice, and this effect was mediated by past-self directedness.

High (vs. low) nostalgia predicts intrinsic motivation in educational settings. Such settings often evoke threat appraisals, which are associated not only with test anxiety, performance-avoidance goals, and lower performance (McGregor & Elliot, 2002; Putwain & Symes, 2011), but also, and importantly, with reduced intrinsic motivation (Kavussanu, Dewar, & Boardley, 2014; Putwain & Remedios, 2014). Bialobrzeska, Elliot, Wildschut, and Sedikides (2019) examined the regulatory role of nostalgia in a sample of undergraduate students. We hypothesized that threat appraisals are linked to lesser intrinsic motivation, but also to greater nostalgia, given that nostalgia often follows on the heels of psychological discomfort, as we discussed in the beginning of this article (i.e., Hofer's [1688/1934] inferential blunder). Further, we capitalized on the palliative

function of nostalgia (Sedikides, Wildschut, Routledge, Arndt, et al., 2015; Wildschut et al., 2011) in hypothesizing that greater nostalgia will counteract the negative association between threat appraisals and intrinsic motivation.

Students indicated on the Nostalgia Inventory (Batcho, 1995), administered at the beginning of an academic semester, how nostalgic they felt in the last few days. This initial measure of nostalgia served as a baseline. Two months later, students indicated threat appraisals for the class. We assessed these appraisals with two items ("I view this class as a threat," "I think this class represents a threat to me"; McGregor & Elliot, 2002). One month later, students indicated again how nostalgic they felt in the last few days (also assessed with the Nostalgia Inventory). This time, nostalgia served as the intervening variable, representing change in nostalgia over time. In the same session, we assessed students' intrinsic motivation for the class using Elliot and Church's (1997) eight-item Intrinsic Motivation Scale (e.g., "I think this class is interesting," "I'm glad I took this class"). The results were consistent with the hypotheses. Students who appraised their class as a threat reported lesser intrinsic motivation for the class 1 month later. They also reported greater nostalgia over time. Nostalgia, in turn, offset the negative relation between threat appraisals and intrinsic motivation (Fig. 1).
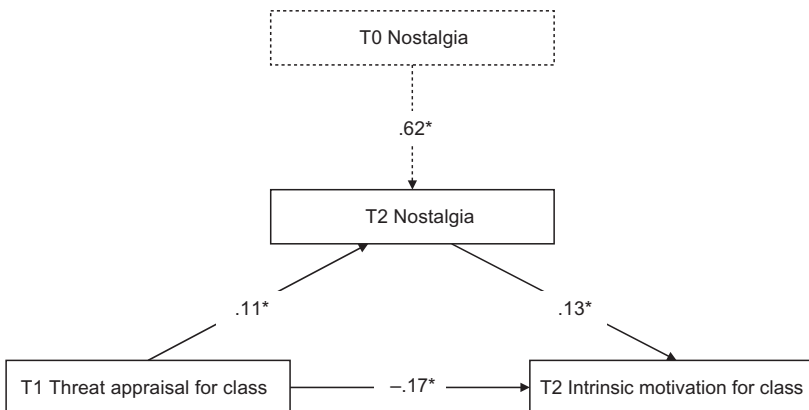
Fig. 1 Intervening variable model from Bialobrzeska et al. (2019). T1 threat appraisal for class predicts increased T2 nostalgia, above and beyond T0 (baseline) nostalgia. T2 nostalgia, in turn, predicts higher levels of T2 intrinsic motivation for class. The positive indirect effect of T1 threat appraisals, via T2 nostalgia, on T2 intrinsic motivation offset the negative direct effect of T1 threat appraisals on T2 intrinsic motivation. Path coefficients are standardized beta weights from a multiple regression analysis. $*P < 0.05$.

4.2.3 Goal pursuit

Nostalgia strengthens intrinsic motivation, but does it potentiate specific goals? Some theorists have linked goal-pursuit with meaning in life (Emmons, 2003; Klinger, 1977; Ryff, 2012), but none have tested this link directly. We wanted to know if meaning is associated with goal-pursuit, and, more specifically, if it is associated with pursuit of a person's more important (than less important) goals. But how about antecedents of meaning? Empirical research has established that nostalgia is a potent source or instigator of meaning (Sedikides & Wildschut, 2018). As mentioned previously, nostalgic narratives revolve around momentous life events or cultural scripts that involve close others (e.g., family members, friends, partners), who are key sources of meaning (Lambert et al., 2010; Stavrova & Luhmann, 2016). We hypothesized, then, that nostalgia will potentiate goal-pursuit by increasing meaning in life. We tested this hypothesis in two experiments.

In Experiment 1 (Sedikides et al., 2018), we manipulated nostalgia with the Event Reflection Task and assessed meaning with four items from the State Functions of Nostalgia Scale (Hepper et al., 2012). The items were: "life is meaningful," "life has a purpose," "there is a greater purpose to life," and "life is worth living." Finally, we assessed goal-pursuit by adapting a measure introduced by Milyavskaya, Ianakieva, Foxen-Craft, Colantuoni, and Koestner (2012). After writing down five personal goals, participants identified their most important one. Then, they pondered the event (nostalgic vs. ordinary) that they had described at the start of the experiment, and, with this event in mind, responded to five items (e.g., "I am motivated to pursue this goal," "I feel excited about pursuing this goal," "I want to put more time and effort into pursuing this goal"). As hypothesized, nostalgia fortified intentions to pursue one's most important goal by elevating meaning in life.

Experiment 2 delimited the findings of Experiment 1 (Sedikides et al., 2018). First, participants wrote down six personal goals that they considered important, and, from this set, identified their most important and least important goal. Subsequently, participant underwent a nostalgia manipulation (the same as in Experiment 1) and completed a meaning scale (the same as in Experiment 1). Finally, they reflected back on the relevant event (i.e., nostalgic vs. ordinary) and, with this event in mind, responded to the abovementioned five items (Milyavskaya et al., 2012) in reference to both their most important and least important goal (presented in random order). Nostalgia galvanized intentions to pursue one's most important, but not least important, goal by augmenting meaning in life. In all, nostalgia facilitates pursuit of one's most cherished goals.

We content-analyzed the goals that participants listed along three themes: social (e.g., having good relationships with family and friends, having a family), agentic (e.g., graduating with good grades, being successful), and hedonic (e.g., enjoying life, being happy). Across experiments, most of the goals were coded as social (37.9%), followed by agentic (36.2%) and hedonic (25.9%). However, the theme of the goals did not vary as a function of nostalgia. That is, nostalgia promotes goal-pursuit independently of goal content. Yet, research focusing exclusively on social goals has indicated that nostalgia enhances the importance of social goals and strengthens intentions to re-connect with friends (Abeyta, Routledge, & Juhl, 2015).

4.3 Action-oriented motivation

We will detail three instances of action-oriented motivation: turnover intentions, helping, and behavior change.

4.3.1 Turnover intentions

We have described above research demonstrating that nostalgia strengthens intrinsic motivation (Van Dijke et al., 2019). Personal nostalgia, then, has implications for employees and organizational processes. So, we reasoned, does organizational nostalgia, which we defined as a sentimental longing or wistful affection for past events and aspects of one's organizational life (e.g., colleagues, rules, norms, or practices, buildings; Gabriel, 1993). We were concerned, in particular, with whether organizational nostalgia reinforces the desire to stay in one's organization, or, alternatively, weakens turnover intentions. Although we focused on intentions, meta-analyses have indicated that turnover intentions are moderately correlated with turnover behavior (with the correlation estimated at approximately 0.50; Steel & Ovalle, 1984; Tett & Meyer, 1993). Turnover has serious organizational costs, such as losses in trained and expert personnel (Ton & Huckman, 2008; Van Dick et al., 2004), productivity decreases (Argote, Insko, Yovetich, & Romero, 1995), and falls in profits (Ton & Huckman, 2008).

We posited, as a mediating mechanism, work meaning (i.e., the extent to which work affords a sense of personal significance, purpose, and growth; Steger, Dik, & Duffy, 2012). Work meaning contributes to positive organizational outcomes, such as job satisfaction, unit cohesion, and commitment (Kamdron, 2005; Steger et al., 2012). Importantly, work meaning deficits conduce to higher turnover (Steger et al., 2012). Equally important, organizational nostalgia is positively correlated with work meaning, as we established in a preliminary investigation (Leunissen, Sedikides, Wildschut, & Cohen, 2018, Study 1).

Next we addressed more systematically the relations among organizational nostalgia, work meaning, and turnover intentions (Leunissen et al., 2018, Study 2). The manipulation of organizational nostalgia came first. Participants in the organizational–nostalgia condition read (p. 47): "According to the Oxford Dictionary, 'nostalgia' is defined as a 'sentimental longing for the past.' Please bring to mind a nostalgic event that you have experienced in your organization. Specifically, try to think of a past event you experienced in your organization that makes you feel most nostalgic." Participants in the control condition read (p. 47): "Please bring to mind an ordinary event that you have experienced in your organization. Specifically, try to think of a past event you experienced in your organization that is ordinary." Next, all participants described the event that they had contemplated. The assessment of the putative mediator followed. Participants completed the four–item Positive Meaning (i.e., personal significance) subscale of the Work and Meaning Inventory (Steger et al., 2012). Sample items are: "I have a good sense of what makes my job meaningful" and "I have found a meaningful career." The assessment of the putative outcome came last. Participants completed a five–item turnover intentions scale (Van Dick et al., 2004), with sample items being "I think I should be checking out job adverts on the daily media" and "I am thinking of quitting this job." As hypothesized, organizational nostalgia weakened turnover intentions, and it did so by augmenting work meaning.

We wondered whether there are some employees for whom organizational nostalgia would be more beneficial (i.e., would attenuate turnover intentions by increasing work meaning) than others. We focused on the individual difference of burnout, defined as a state of physical and emotional exhaustion (accompanied by disengagement and cynicism) due to excessive job demands and depleted resources (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Schaufeli & Greenglass, 2001). Burnout, linked to job dissatisfaction, absenteeism, and reduced productivity (Schaufeli & Bakker, 2004), can be present in virtually all occupations (Kristensen, Borritz, Villadsen, & Christensen, 2005; Maslach, Schaufeli, & Leiter, 2001), and, in its severe form, afflicts up to 10% of the work force at any given time (Schaufeli & Buunk, 2003). More relevant to our research objectives, suggestive evidence indicates that burnout is negatively correlated with work meaning (i.e., existential fulfillment; Loonstra, Brouwers, & Tomic, 2009). As such, organizational nostalgia will be of benefit to psychologically taxed employees, replenishing meaning for those with depleted psychological resources (i.e., high burnout) compared to those with abundant psychological resources (i.e., low burnout).

In Study 3 (Leunissen et al., 2018), we provided a test of the hypothesis that organizational nostalgia raises work meaning among employees higher (than lower) on burnout, with the downstream consequence of weaker turnover intentions. We first assessed burnout with the 7-item Work Burnout subscale of the Copenhagen Burnout Inventory (Kristensen et al., 2005). Sample items include "Do you feel burned out because of your work?" and "Do you feel worn out at the end of the working day?" We then manipulated organizational nostalgia as in Study 2 above. Subsequently, we assessed work meaning with the full 10-item Work and Meaning Inventory (Steger et al., 2012), which gauges not only personal significance (as the 4-item Positive Meaning subscale, used in Study 2, does), but also perceiving one's work as a path toward meaning making and as contributing to the greater good. Finally, we assessed turnover intentions in the same manner as in Study 2. The hypothesis was confirmed. Organizational nostalgia increased work meaning among employees higher (than lower) on burnout, and this increase in work meaning predicted weaker turnover intentions (Fig. 2).

4.3.2 Helping

Helping involves proximity (physical or interpersonal), which is a behavioral indicator of approach motivation (Bandura, Adams, & Beyer, 1977). Individuals comfortable with proximity are increasingly likely to help (Mikulincer, Shaver, Gillath, & Nitzberg, 2005); helping, then, is a sign of social approach motivation (Snyder & Stuermer, 2009).

After inducing nostalgia with the Event Reflection Task, we informed participants of an impending exchange with a co-participant who was
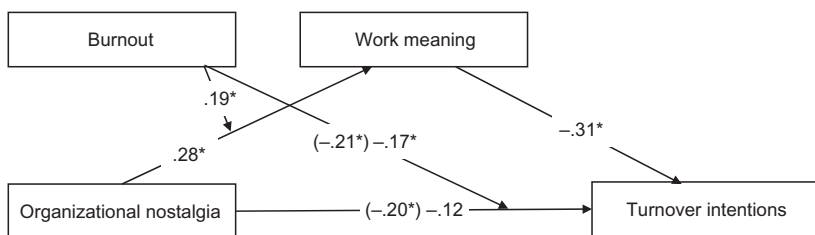
Fig. 2 Moderated mediation model from Leunissen, Sedikides, Wildschut, and Cohen (2018, Study 3), based on Hayes' (2018) model 8. Increased work meaning mediates the effect of organizational nostalgia on weaker turnover intentions. However, the indirect effect of organizational nostalgia, via work meaning, on turnover intentions is stronger—and significant only—among employees who experienced high (compared to low) burnout. Path coefficients are standardized beta weights from a multiple regression analysis. Coefficients in parentheses are from an analysis that did not control for work meaning (i.e., the mediator). $*P < 0.05$.

currently in another part of the building. In preparation for the exchange, they would need to position two chairs (one for them, one for their prospective interactant) in a designated area of the room (Macrae, Bodenhausen, Milne, & Jetten, 1994). At this point, the research assistant left the room, ostensibly to summon the second interactant, marking the end of the experimental procedure. The seating distance between chairs (center-to-center) was the dependent measure. Nostalgic participants placed the chairs closer together relative to controls (Stephan et al., 2014, Study 4). Nostalgia evokes behavior indicative of a desire for interpersonal proximity.

Nostalgia also directly increases helping (Stephan et al., 2014, Study 5). Participants underwent a nostalgia manipulation (Event Reflection Task). Then, in a staged mishap, they watched a clumsy research assistant enter the room and drop pencils on the floor. The number of pencils that participants picked up and handed to the research assistant was the dependent measure (as per Vohs, Mead, & Goode, 2006). Nostalgic participants were more helpful than controls.

How does nostalgia increase helping? We addressed this question in samples of Chinese participants (Zhou, Wildschut, Sedikides, Shi, & Feng, 2012). In a preliminary investigation (Study 1), we induced nostalgia with the Event Reflection Task and then presented participants with a description of an alleged nonprofit organization, whose mission was to help young victims of an earthquake. Afterward, we instructed participants to record the number of hours they would plan to volunteer for this charity and the amount of money that would intend to donate to the charity. Relative to controls, nostalgic participants were prepared to spend more volunteering time and donate more money.

Our main interest, though, was the mechanism that transmitted the effect of nostalgia on helping. We focused, in Study 2, on two emotional responses likely to be elicited by awareness of others' misfortune or suffering: empathy and personal distress (Batson, 1991). Empathy is other-oriented and therefore can lead to helping from an altruistic desire to lessen the needy person's suffering, whereas personal distress is self-oriented and therefore can lead to helping from an egoistic desire to mitigate one's own discomfort. Specifically, we manipulated nostalgia (with the Event Reflection Task), assessed empathy ("sympathetic," "compassionate," "softhearted," "tender") and personal distress ("distressed," "upset," "perturbed," "troubled"), and then assessed volunteering and donation intentions. Nostalgic (relative to control) participants expressed stronger volunteering intentions, which were mediated by empathy rather than personal distress. We replicated these findings

with a different charity (Study 3), community adults rather than university students (Study 4), and monetary donations rather than monetary intentions (Study 5).

4.3.3 Behavior change

Can nostalgia contribute to behavioral change? We (Wohl et al., 2018) focused on problematic behavior, and in particular addiction (i.e., gambling, drinking), which is associated with physical, psychological, and interpersonal consequences (Amato & Rogers, 1997; Hall & Solowij, 1998; Lesieur & Custer, 1984). Most people who routinely exhibit such problematic behavior are unmotivated to modify it. For example, only 15% of them take steps to do so (Miller & Rollnick, 2002) and, when they do take steps (e.g., make resolutions), they typically fail to make a single attempt at change (DiClemente et al., 1991). As such, research needs to identify means that will motivate people to overcome barriers to behavior change. We reasoned that nostalgia may be such a means.

We proposed that individuals who realize that their problematic behavior has negatively altered their sense of self would become motivated to reclaim their positive past self. This proposal is based on the Motivational Interviewing framework (Miller & Rollnick, 2013), according to which a fruitful means to build momentum toward change is to render salient and magnify self-relevant inconsistencies, including discontinuities in one's life. So, eliciting the subjective perception that one's behavior has caused self-discontinuity will motivate behavior change. But how? It will be via nostalgia, we argued. Indeed, the experience of self-discontinuity fosters nostalgia (Sedikides, Wildschut, Routledge, & Arndt, 2015), and nostalgia motivates a desire to reclaim one's past (i.e., addiction free) self (Kim & Wohl, 2015). In all, we hypothesized that behavior change would occur by invoking nostalgia for one's past, non-addicted self through highlighting the self-discontinuity that the addictive behavior has created. Yet, this behavior change would be restricted to individuals high rather than low in addiction severity. Individuals who engage in serious or disordered gambling report financial, physical, psychological, and interpersonal problems (Lesieur & Custer, 1984; Petry, 2004), and so will feel nostalgic for their pre-addicted self; conversely, individuals who do not engage in gambling at a problematic level will not be influenced by a message that addictive behavior engenders self-discontinuity, as such a message will be largely inapplicable to them.

In Study 1 (Wohl et al., 2018), a longitudinal experiment, we distributed the nine-item Problem Gambling Severity Index (Ferris & Wynne, 2001) to

a sample of community gamblers. This scale assesses gambling (e.g., "Have you bet more than you could really afford to lose?") and its consequences (e.g., "Has gambling caused you any health problems, including stress or anxiety?"). We then randomly allocated participants to the self-discontinuity or self-continuity condition. In the *self-discontinuity condition*, participants read a (bogus) article that summarized the results of recent research findings. It stated that heavy gambling not only has undesirable financial and interpersonal consequences, but also leads to loss of a sense of self. Individuals who gamble heavily, for example, report that their mood and behavior had drastically deteriorated, and end up disliking the person they had become compared to the person they were before gambling. Participants then reflected on the article and wrote a brief essay on how gambling has changed their mood, attitudes, behavior, and sense of self. In the *self-continuity condition*, the article stated that, although heavy gambling can have undesirable financial and interpersonal consequences, it does not alter personality and behavior. Individuals who gamble heavily, for example, report that they are the same person now compared to the person they were before gambling. Then, participants reflected on the article and wrote a brief essay on how they were the same person now as before they had started gambling.

Afterward, participants completed a continuous "readiness to change" measure in the form of a single-item pictorial contemplation ladder (Biener & Abrams, 1991). The measure ranged from 0 (*no thought of changing*) to 10 (*taking action to change*). The scores corresponded to DiClemente et al.'s (1991) stages of change. In particular, scores of 0–3 corresponded to the pre-contemplation stage (i.e., not thinking about change), 4–6 to the contemplation stage (i.e., thinking about change), 7–8 to the preparation stage (i.e., preparing to change in the next 30 days), and 9–10 to action and maintenance (i.e., modifying problematic behavior). Thirty days later, we re-contacted participants and asked them to report their attempts to quit in the preceding month.

The results were consistent with our hypothesis. Participants who reflected on the self-discontinuity (vs. self-continuity) caused by their gambling felt nostalgic for their pre-addicted self. Nostalgia, in turn, precipitated readiness to change and increased their attempts to quit. This was the case, though, only among serious (vs. non-serious) gamblers. In all, nostalgia, induced by self-discontinuity, influenced self-reported behavior change among individuals living with disordered addiction. These results were replicated in a second experiment with a community sample of problem drinkers. Here, we verified self-reported attempts to quit with collateral

estimates (Borsari & Muellerleile, 2009), that is, reports of family members or close friends who were familiar with the participant's drinking activities.

Physical activity is another domain in which nostalgia can effect change. Kersten, Cox, and Van Enkevort (2016, Study 3) induced nostalgia (with the Event Reflection Task) three times in a period of 2 weeks. Then, they assessed the putative mediator, health optimism, with a 16-item measure (Aspinwall & Bruhnhart, 1996; e.g., "If I did get a serious illness, I would recover from it sooner than most other people"). Lastly, they measured physical activity in terms of the number of walking steps that participants took (counted by the wireless fitness tracker *Fitbit One*), a valid index of physical activity (Takacs et al., 2014). Nostalgic participants engaged in more intense physical activity (i.e., walked more steps) than controls, and they did so due to their higher health optimism.

5. Summary and conclusions

For 330 years, nostalgia has received a bad rap. Traditionally, it has been equated with medical and psychiatric ailments (Sedikides et al., 2004), and more recently it has been regarded "a regressive manifestation" (Castelnuovo-Tedesco, 1980, p. 110), a stagnation in one's past (Best & Nelson, 1985), and a futile utopia (Flinn, 1992). Accumulating evidence over the last 15 years does not corroborate these labels. In accordance with Davis's (1979) pecuniary analogy, nostalgia draws on the past as scaffolding for reaching the future. Nostalgia motivates. It strengthens generalized motivation, such as youthfulness, inspiration, and risk-taking. It reinforces localized motivation, such as growth orientation, intrinsic motivation, and goal pursuit. And it buttresses action-oriented motivation, such as plans to re-dedicate one's self to the work organization, intention to help or actual helping, and change of problematic behavior. Nostalgia is for planning and doing.

Several items deserve to be ranked highly on the future research agenda. For example, what are the neurological concomitants of nostalgia (Luo et al., 2019; Tullett, Wildschut, Sedikides, & Inzlicht, 2015)? What are other forms of motivation on which nostalgia impacts, and how does it do so? What are key moderators of the effects of nostalgia on motivation (Iyer & Jetten, 2011; Wildschut, Sedikides, & Alowidy, 2019)? Does nostalgia's motivational influence extend to populations such as persons living with Alzheimer's (Ismail et al., 2018)? Finally, is nostalgia's motivational influence

lasting rather than fleeting? If emotions, in general, can have a lasting influence (Fredrickson & Joiner, 2002; Rimé, 2009), so can nostalgia, as Odysseus would testify.

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