



# NOSTALGIA'S EFFECTS ON CONSUMERS

A psychological framework of nostalgia

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## Abstract

The use of nostalgia has increased in recent years with remakes, reboots, and retro being hot commodities in not only entertainment but even products like cars or fashion. This naturally presents the question as to why nostalgia is deemed so useful, the answer being the fact that nostalgia has a multitude of positive effects, particularly effects that are useful from a marketing perspective. For example, nostalgic consumers are prepared to pay more for products. Consumers also show a clear preference towards nostalgic content and products.

To understand why nostalgia is so useful, this thesis attempts to understand how nostalgia works, and thus, giving insight as to why nostalgia has so many positive effects and why consumers prefer nostalgic content over non-nostalgic content. In particular the literature review in this thesis takes a psychological perspective to nostalgia, as significant progress has been made in the field of psychology in regard to nostalgia, largely due to a small group of researchers lead by Constantine Sedikides and Tim Wildschut. The literature review is focussed on understanding, analysing, and critiquing the work of that small group of researchers, thus, grasping insight into the effects of nostalgia on consumers.

Most significantly it was clear that the nostalgia research is fragmented and difficult to navigate as the effects and other aspects of nostalgia are scattered in various separate studies. Particularly I note that there is no congruent framework that explains the entire process of nostalgia, what triggers it, what nostalgic reverie is like, and what nostalgia's effects are.

Therefore, I created a new three step framework which presents that when a person faces threats to the self, they may use nostalgia to combat those threats by finding relevant strengths from one's memories that counteract the specific threat. This will lower the threats and lowered threats will have some specific consequences or effects that vary depending on the specific threat.

This framework is particularly significant because it brings together all the aspects of nostalgia and understands them in a comprehensive manner, thus, bringing clarity and focus to a field of research that is a hodgepodge of various threats and effects. The clarity that the framework provides makes it easier for marketers to find new solutions and uses of nostalgia. Examples such as Pokémon go and sad trailer music are discussed from the perspective of the new framework.

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**Keywords** nostalgia, consumer, psychology, Sedikides

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## 1. Introduction

As the great philosopher Randy Marsh once said: *“Every great empire reaches a point where going backward can seem more appealing than going forward. The world is changing so fast it makes us yearn for the old days when life seemed simpler, but it doesn’t mean those old ideas are good for us now. We have to face one hard reality as a country: the new Star Wars was not as good as everyone thought it was...”*

– South Park, Season 20, Episode 5

Indeed it is often presented that the use of nostalgia in marketing has significantly increased throughout the recent decades (Brown, Kozinets, and Sherry 2003; Havlena and Holak 1991; Lasaleta, Sedikides, and Vohs 2014; Rindfleisch, Freeman, and Burroughs 2000).

Movies in particular have begun to utilize nostalgia more and more. One need not look further than the top ten movies of 2017 to see the vast array of nostalgia present in modern cinema. Whether it be; remakes of old classics, such as “Beauty and the beast” or “Jumanji”; additions to long lasting franchises, such as the new Star Wars movies or the new Fast and the furious movies; or nostalgic soundtracks in, for example “Guardians of the galaxy vol. 2” and “Thor: Ragnarok”, nostalgia seems to have captivated audiences.

In a study by Wildschut et al. (2006), 79% of participants indicated that they experienced nostalgia once a week or more, showing that *“nostalgia is not an esoteric phenomenon but, rather, a strand in the fabric of everyday life”*.

What makes nostalgia so appealing? It has long been understood that evoking nostalgia in consumers has positive effects from a marketing perspective (Havlena and Holak 1991; Holak and Havlena 1992). For example, nostalgic advertising produces more positive brand-related outcomes than non-nostalgic advertising (Merchant et al. 2013; Muehling, Sprott, and Sultan 2014). But why do consumers have this tendency to prefer nostalgic content, such as nostalgic movies, and why do they feel nostalgic in the first place? In particular, what are the psychological and behavioural consequences of feeling nostalgic?

Answering these questions requires a deep understanding of how nostalgia works and what it exactly does.

**Thus, the primary research question is:**

*How does nostalgia function and what are its effects on consumers?*

**And the secondary research questions are:**

*What is nostalgia, why do people feel nostalgic, and how is it triggered?*

*Why do consumers show a tendency toward nostalgic content?*

First, nostalgia will be discussed generally, presenting; definitions, triggers, predictors of intensity of nostalgic reverie, and the use of nostalgia in marketing. Then the psychological research into nostalgia will be analysed and critiqued. But most importantly the known functions and effects of nostalgia will be presented and understood. The fragmented nostalgia research and lists of functions and effects will then be brought together by a new nostalgia framework, which intends to bring clarity and unity to the understanding of nostalgia. Finally, the implications to marketing and research are discussed as well as the limitations and possibilities for future research.

Appendix A summarizes the psychology literature of nostalgia

## 2. Understanding Nostalgia

Nostalgia is commonly defined in nostalgia research as a “sentimental longing or wistful affection for the past” (Baldwin, Biernat, and Landau 2015; Hepper et al. 2012). This definition indicates a limited number of qualities of nostalgia. The longing aspect presents a sense of loss, which is often identified in nostalgic recollections (Havlena and Holak 1991; Holak and Havlena 1998). The sentimental aspect presents the complex affective signature of nostalgia of being simultaneously positive yet tinged with a sense of sadness, as affection for the past is met with the realization that one cannot relive the past (Hepper et al. 2012; Holak and Havlena 1998; Wildschut et al. 2006). The affection aspect indicates the element of nostalgia that the past is viewed through rose-tinted glasses, meaning that nostalgic recollections usually filter out negative aspects of the past (Havlena and Holak 1991; Hepper et al. 2012). This naturally means that a nostalgic person will view the past as better than it perhaps was (Holak and Havlena 1998).

However, nostalgic experiences vary significantly (Havlena and Holak 1996, 1991) and not all experiences qualify specifically as entirely nostalgic or non-nostalgic (Hepper et al. 2012). The lay definition, thus, presents some weaknesses in being able to comprehensively capture the diversity of people’s experiences, meaning that the lay definition lacks coverage. Additionally, the lay definitions are not based on empirical evidence, meaning they lack rigor. Rigor and coverage are two of the most significant criteria that any good definition of a psychological phenomenon should satisfy (Gregg et al. 2008). Thus, Hepper et al. (2012) created a prototype definition of nostalgia, to fulfil those two criteria, through a set of studies where central and peripheral features of nostalgia were identified and tested to see the relative prominence of those features in nostalgic experiences. A prototype definition essentially contains “a collection of the most typical or highly related features associated with a category” (Cantor and Mischel 1977).

*“When waxing nostalgic, one remembers, thinks about, reminisces about, or dwells on a memory from one’s past—typically a fond, personally meaningful memory such as one’s childhood or a close relationship. One often views the memory through rose-tinted glasses, misses that time or person, longs for it, and may even wish to return to the past. As a result, one typically feels emotional, most often happy but with a sense of loss and longing; other less common feelings include comfort, calm, regret, sadness, pain, or an overall sense of bitter sweetness.”- (Hepper et al. 2012)*

Nostalgia’s affectively mixed nature presents the question of whether or not it should be considered a more positive emotion than a negative one. Studies into the nature of nostalgic recollections have found that nostalgic recollections, as well as the feelings associated with them, are typically more positive (Holak and Havlena 1998; Wildschut et al. 2006), however, it has also been found that feeling nostalgia more often, correlates with lower well-being (Sedikides and Wildschut 2016; Yang and Liu 2017).

## 2.1. Triggers: Predictors of Nostalgic Reactions

Nostalgia is particularly useful to marketers as it can be reliably and consistently triggered in consumers (Merchant et al. 2013; Muehling and Sprott 2004; Muehling et al. 2014). It is typically triggered by our senses. Most commonly in research, sounds (Barrett et al. 2010; Barrett and Janata 2016) and visuals (Schindler and Holbrook 2003; Wildschut et al. 2006) have been used to evoke nostalgia, but also scents (Reid et al. 2015) and tastes (Holak and Havlena 1992; Hwang and Hyun 2013) have been noted to evoke nostalgia reliably.

The predictors of nostalgia, or the elements that make it more likely that a trigger will evoke nostalgia are how arousing, familiar, autobiographically relevant, and/or emotion-provoking the trigger is (Barrett et al. 2010; Reid et al. 2015; Wildschut et al. 2006). Autobiographical salience has been found to be the strongest predictor of the intensity of evoked nostalgia, meaning the importance of the object that triggers the nostalgia in one's personal history plays a large role in how significant the nostalgic reaction will be (Barrett et al. 2010; Reid et al. 2015).

This is why objects that trigger nostalgia are often related to friends, family, and loved ones (Holak and Havlena 1992; Muehling and Sprott 2004; Wildschut et al. 2006). It is also why simply because a product, show, or other object is old does not mean it will evoke nostalgia, as is the case with vintage products (Sarial-Abi et al. 2017; Wildschut et al. 2006). This provides some difficulty for marketers. Finding objects that will trigger nostalgia in consumers becomes challenging as simply taking an old brand or song will not necessarily evoke nostalgia. For example, there is no single song that universally elicits nostalgia, or even evokes nostalgia in all consumers in a specific age group; even though some songs do elicit more nostalgia than others (Barrett et al. 2010; Barrett and Janata 2016). Thus, it becomes more important for marketers to understand their consumers.

Other than close social relationships, there are many objects that trigger nostalgia that are notable from a marketing perspective; entertainment, such as music and movies (Barrett et al. 2010; Holak and Havlena 1992); popular culture, such as celebrities and momentous events (Havlena and Holak 1996; Wildschut et al. 2006); products, such as clothing and toys (Havlena and Holak 1996; Lasaleta et al. 2014); and even brands, such as Coca-Cola (Muehling et al. 2014). As is with the Coca-Cola example, it is not necessary to assume that the object of nostalgia was more common in the past than it is in the present (Holak and Havlena 1998), only the prevalence of the predictors of nostalgia matter in terms of the object's ability to trigger nostalgia (Barrett et al. 2010; Hepper et al. 2012; Reid et al. 2015).

## 2.2. Proneness to nostalgia: Turbulence and age

Although autobiographical salience is the strongest object-related predictor of the intensity of evoked nostalgia, the strongest person-level predictor of the intensity of evoked nostalgia is nostalgia proneness (Barrett et al. 2010; Reid et al. 2015). This is to be expected as nostalgia proneness indicates how susceptible a person is to nostalgia triggers, but it is important to note as it implies that some people are more likely to be nostalgic than others.

For example. People who are unhappy with weak social support systems are more likely to react nostalgically than those who are happy with strong social support systems (Goulding 2001; Zhou et al. 2008). Thus, during tumultuous times in life, people are more prone to nostalgia (Wildschut et al. 2010; Zhou et al. 2008).

The elements that define whether or not a person is high in nostalgia proneness are often related to personal wellbeing (Hart et al. 2011), such as social connectedness (Wildschut et al. 2010) and existential meaning (Routledge et al. 2011).

In a set of studies, Holbrook (1993) found only trivial variance between nostalgia proneness and age, which indicates that age appears to operate independently of nostalgia proneness. Older respondents generally preferred earlier films, and those high in nostalgia proneness tended to show differential preferences for tender musicals. Although Holbrook (1993) presents that both are clearly nostalgic phenomena, other research has indicated that the preference of older people for products from their past is not mediated by nostalgia, but by attachment and declining innovativeness (Lambert-Pandraud and Laurent 2010). In general, research has not found that nostalgia increases with age but that people are more likely to feel nostalgic during times of great change in life, such as, when moving out of one's parents' house, or when close loved ones pass away (Hepper et al. 2012; Juhl et al. 2010).

## 2.3. Nostalgia in Marketing

Marketing research has heavily focussed on nostalgic ads and on the finding that ads with nostalgic themes yield more favourable attitudes toward the ad and the advertised brand (Holak and Havlena 1998; Merchant et al. 2013; Muehling and Spratt 2004; Muehling et al. 2014). This is essentially true in all cases; when the brand itself is nostalgic (Havlena and Holak 1991), when the brand is not nostalgic (Holak and Havlena 1998; Muehling and Spratt 2004), and even when the brand is fictional (Muehling et al. 2014). Thus, even new brands can make use of nostalgia in their advertising.

This has all been notable, for example, in many movie trailers with sorrowful covers of nostalgic songs; the song "Creep" originally by Radiohead sang by a choir with sad piano music in the background in the trailer for the movie "The Social Network" and "Crazy" by Gnarl's Barkley slowed down to an eerily depressing level in the trailer for the movie "Birdman", just to name a few examples (Ranker.com 2017).

The effect of favourable outcomes towards ads and brands when feeling nostalgic has to do with the power of association (Muehling and Sprcott 2004). As a person feels nostalgic, they will feel many positive effects (e.g. Wildschut et al., 2006, 2010; Zhou, Wildschut, Sedikides, Chen, & Vingerhoets, 2012), which they will then associate with the ad and/or brand in question.

Nostalgic ads evoke many emotions and it has often been noted that, even though those emotions are predominantly positive, sometimes the emotions that nostalgic themes evoke are slightly negative in nature, for example, tinged with sadness or regret (Barrett et al. 2010; Merchant et al. 2013; Muehling and Sprcott 2004; Rindfleisch et al. 2000). However, negative responses have not been found to have damaging effects on attitudinal responses towards ads or brands in the case of nostalgia-themed advertising, although, what exactly causes this is unclear (Muehling and Pascal 2011; Muehling and Sprcott 2004). This is somewhat odd because generally evoking negative emotions in ads does have a negative impact on a consumer's attitudinal responses towards the ad and the brand (Hong and Lee 2010; Lau-Gesk and Meyers-Levy 2009).

It has also been pointed out that brands themselves can be nostalgic and that they can benefit significantly from it (Havlena and Holak 1991; Kessous, Roux, and Chandon 2015). For example, nostalgia played a huge role in Pokémon Go's success as nostalgia towards the Pokémon brand was listed as one of the main reasons that people played the game (Yang and Liu 2017).

To understand why nostalgia can be so effective, the psychological functions of nostalgia must be understood.



### 3. The Psychology of Nostalgia: The Sedikidean Functions

Nostalgia research in the field of psychology has made significant leaps in the past few decades as a small group of researchers, spearheaded particularly by Constantine Sedikides and Tim Wildschut, have taken great interest in the subject (Hepper et al. 2012; Sedikides and Wildschut 2016; Wildschut et al. 2006, 2010, 2014).

They have presented that nostalgia serves four main functions; increasing positive affect (Barrett et al. 2010; Cheung et al. 2013; Hart et al. 2011; Hepper et al. 2012; Reid et al. 2015; Wildschut et al. 2006, 2010), increasing self-regard/self-esteem (Cheung et al. 2013; Hart et al. 2011; Hepper et al. 2012; Reid et al. 2015; Wildschut et al. 2006), increasing social connectedness (Cheung et al. 2013; Routledge et al. 2011; Wildschut et al. 2010, 2006, 2014; Zhou et al. 2008), and increasing existential meaning (Hepper et al. 2012; Juhl et al. 2010; Reid et al. 2015; Routledge et al. 2011; Zhou et al. 2013).

Positive affect induced by nostalgia has generally been found to be a more gentle serene state than an exuberant euphoria (Barrett et al. 2010; Wildschut et al. 2006). In particular, in a set of studies by Wildschut et al. 2006, participants in a negative mood condition experienced more nostalgia than those in a positive or neutral condition, and nostalgia successfully improved their mood. Thus, people feel more nostalgic when they are in a negative affective state, such as when they are sad, which nostalgia then improves to a more content state.

The increase in positive affect has to do with the nature of the nostalgic memories being largely positive and with a tendency towards redemption sequences (Wildschut et al. 2006). In redemption sequences, one moves from a negative life sequence to a positive or triumphant one (McAdams et al. 2001). Therefore, nostalgia helps transition a person from a negative state to a positive one as the nostalgic memories present positive aspects of the self (Hepper et al. 2012; Wildschut et al. 2006).

Self-regard or self-esteem is increased through a similar process, of affirming positive aspects of the self, such as, communal aspects like being connected to others or more agentic aspects like being highly competent (Cheung et al. 2013; Hart et al. 2011; Wildschut et al. 2006). Increased self-esteem in turn increases optimism, which means that people have a brighter forecast of the future (Cheung et al. 2013).

The social connectedness function of nostalgia is multifaceted; it can be divided into increased prosocial behaviour and competence, and increased perceptions of attachment and social support (Wildschut et al. 2010, 2006; Zhou et al. 2008).

The prosocial behaviour is explained by the fact that childhood memories evoke moral purity, which has been found to occur regardless whether or not the memories are positively charged (Gino and Desai 2012). The prosocial behaviour induced by nostalgia then presents itself in many ways, such as, increased desire to socialize (Loveland, Smeesters, and Mandel 2010; Wildschut et al. 2006, 2010), increased willingness to cooperate (van Dijke et al. 2015; Wildschut et al. 2014), and increased social competence (Wildschut et al. 2010, 2006).

Perceptions of attachment or social support on the other hand come from nostalgic recollections that are communal in nature (Wildschut et al. 2006, 2010; Zhou et al. 2008). If a person, for example, reminisces over a family vacation, those memories will make that individual feel connected to others, particularly those close others present in the memories. This shows itself in, for example, studies of groups where shared nostalgic events were more effective in increasing social connectedness to other in-group members than non-shared nostalgic events (Wildschut et al. 2014).

Inducing loneliness, and thus reducing the perception of social connectedness, increases felt nostalgia, and the nostalgia in turn increases felt social attachment (Zhou et al. 2008). This does not require a change in actual social connectedness, for example, consuming nostalgic products fulfils the need to belong, even though there is no real change in social connection (Loveland et al. 2010).

Existential meaning is also divided into two elements; boosting perceptions of life as meaningful (Hepper et al. 2012; Routledge et al. 2011), and buffering against death anxiety (Juhl et al. 2010; Routledge et al. 2008).

The boosting of life as meaningful is born from the meaningful life experiences recalled during nostalgic reverie that remind people of the consequential moments in their lives and the people important to them (Juhl et al. 2010; Routledge et al. 2011). Naturally, viewing life as meaningless increases nostalgia (Routledge et al. 2008, 2011).

Current research has been unable to definitively identify what explains the decrease of death anxiety caused by nostalgia (Juhl et al. 2010; Routledge et al. 2014). Perhaps because nostalgia increases self-continuity by connecting the past with the present through reminiscing, it brings order to one's autobiography (Sedikides et al. 2016, 2015), which in turn mitigates death anxiety because "maintaining a coherent autobiography protects the individual from mortality concerns by imbuing experience over time with significance and order." (Landau, Greenberg, and Sullivan 2009)

Another recent hypothesis is that nostalgic reverie reassures people that their lives are connected to "broader and death-transcending groups and traditions" (Routledge et al. 2014).

These hypotheses are similar as they both promote the idea that life is continuous in some way, conflicting with the idea that life will come to a halt. In fact each function of nostalgia plays off of the corresponding negative and positive. E.g. loneliness triggers thoughts of others, self-doubt triggers thoughts of personal success or connection to others (Cheung et al. 2013; Zhou et al. 2008).

### 3.1. Critique of Sedikides and Company

The reasoning as to why the four functions as presented by Sedikides and company (Hepper et al. 2012; Routledge et al. 2011; Wildschut et al. 2006) are raised as functions is that they are

responses to lowering each element. Lowering social connectedness (Zhou et al. 2008), lowering existential meaning (Juhl et al. 2010), lowering positive affect (Wildschut et al. 2006), and lowering self-esteem (Vess et al. 2012) increases nostalgia in each case. Thus, it could be said that the purpose of nostalgia is to increase these four elements. However, there are a few significant problems with this.

### **Problem 1**

The most obvious problem is that there are other times when nostalgia increases outside of these four functions. In a set of studies, it was found that nostalgia increased resistance to cold, but not only that, in cold rooms and during colder days participants were found to be more nostalgic (Zhou, Wildschut, Sedikides, Chen, et al. 2012). Thus, it could be said that a function of nostalgia is increasing physiological comfort or at least to increase warmth, however, Sedikides and company have yet to present it alongside the core functions of nostalgia. As to why this is, the researchers have not specified. Perhaps it is because it remains unclear what causes the increased warmth.

Also, presenting a bleak future, meaning pessimism, to participants makes them more nostalgic, and thus, increases optimism and a more positive outlook of the future (Hepper et al. 2012). Would increasing optimism then be yet another separate core function? Also, reduced death anxiety and increased meaning in life could be considered separate entities, unlike Sedikides and company present. Increasing death anxiety increases nostalgia, and thus, lowers death anxiety (Juhl et al. 2010) and reducing meaning in life also increases nostalgia, thus, increasing meaning in life (Routledge et al. 2011). As death anxiety and lack of meaning in life are not evoked in the same manner, it could be said that they are sufficiently different concepts that they would warrant two separate functions.

### **Problem 2**

If all of these functions would need to be presented to understand nostalgia, it would evidently become quite complicated and difficult to navigate. Some researchers have even noted that the functions of nostalgia as presented by Sedikides and company read like a “laundry list of functions”, making nostalgia seem like it fulfils multiple functions or purposes with seemingly independent internal mechanisms (Baldwin et al. 2015).

One might think that perhaps the four functions are somehow more central, and thus, create a good understanding of nostalgia, however, this is not the case as one of the most common descriptions of nostalgia is a sense of warmth (Hepper et al. 2012), making increasing warmth quite central – although, Sedikides and company do not themselves argue this point.

Although, in some research it is presented that perhaps the core functions that explain nostalgia are increasing social connectedness and increasing self-positivity (Hart et al. 2011; Wildschut et al. 2010). This is because self-regard, positive affect, and existential meaning are mediated by social connectedness and self-positivity (Cheung et al. 2013; Routledge et al. 2011; Wildschut et al. 2010, 2006).

However, this presents the same issue that it appears as if these are two independent mechanisms.

Although, narcissists and high-avoidance individuals only present benefits of a self-positivity function during nostalgic experiences and not the benefits of a social connectedness function (Hart et al. 2011; Wildschut et al. 2010), therefore, perhaps they do serve two independent mechanisms. However, this is unlikely as self-positivity and social connectedness do share some functions (e.g. increasing self-regard; Wildschut et al., 2010), thus, they appear to have some kind of common goal of, for example, improving the individual's state of mind.

But the question remains, why do high-avoidance and narcissistic individuals only present the self-positivity aspect of nostalgia? This is likely because the outcomes of a self-improvement mechanism should match the relevant self-concept (Baldwin et al. 2015). If communion, or social connectedness, is not a core characteristic of the relevant self-concept, as is the case with high-avoidance individuals (Wildschut et al. 2010), nostalgia does not increase social connectedness.

### **Problem 3**

Although, technically the function of nostalgia is not to increase social connectedness or self-positivity. Those are merely the consequences or the effects of the function. This is because, as stated earlier, when people already feel socially connected and positive about themselves, they will not feel nostalgic (Goulding 2001; Wildschut et al. 2010; Zhou et al. 2008). As people feel lonely (Zhou et al. 2008), or cold (Zhou, Wildschut, Sedikides, Chen, et al. 2012), or feel otherwise insecure about themselves (Zhou et al. 2013), they begin to use nostalgia as a means to combat those negative states. Thus, the function of nostalgia is to repel negative states of being, and increasing positive states of being is the resulting effect. Presenting the functions of nostalgia as increasing a state of being does not capture this protective nature of nostalgia.

This viewpoint is echoed by Zhou et al. (2013) who have presented the functions of nostalgia as combating insecurities; combating existential insecurity, which refers to death anxiety; combating personal insecurity, which refers to one's poor self-esteem and belief that one is worthless; combating social insecurity, which refers to social anxiety and in particular social performance; and combating attachment insecurity, which refers to feeling isolated and lacking social support.

When contrasting with the Sedikidean functions, the insecurity perspective makes it clearer that nostalgia is a coping mechanism, and that one can draw strength from one's memories to combat negative states. When one is sad one can nostalgize over times when one was happy. When feeling lonely one can nostalgize over times when one was connected to others. When one is cold, one can nostalgize over times when one was warm.

Self-enhancement is naturally in the interest of a person's psychological well-being, but particularly in that the individual avoids negative states of mind and that they transition from any emotionally negative states to more emotionally positive states (McAdams et al. 2001).

Nostalgia is a way to achieve this and presenting the functions of nostalgia as combating insecurities makes this function easily understandable.

### 3.2. Protecting the Self-concept

It is clear that the underlying function of nostalgia is towards protecting the self, and generally there is consensus in the research that nostalgia is in some way a self-enhancement mechanism (Baldwin et al. 2015; Hepper et al. 2012; Sedikides and Strube 1997; Zhou et al. 2013).

But what does that self-concept include? For example, Baldwin et al. (2015), presented that nostalgia serves to mitigate threats to the intrinsic self, which they define as “who people think they truly are”.

However, although threats to the intrinsic self do increase nostalgia (Baldwin et al. 2015), the intrinsic self does not explain the physiological functions of nostalgia (Zhou, Wildschut, Sedikides, Chen, et al. 2012). For example, cold is not a threat to the intrinsic self, as it is more a threat to the physical self. Additionally, presenting that intrinsic self-threats increase nostalgia does not indicate that it is the guiding factor of all threats involved. However, it does indicate that at least most psychological threats do increase nostalgia.

It could be argued that any threat to the self would cause increase in nostalgia. The main psychological threats appear to increase nostalgia (Zhou et al. 2013) and a reasonable hypothesis is that any physiological threat would also increase nostalgia. Cold has already been experimentally proven to increase nostalgia (Zhou, Wildschut, Sedikides, Chen, et al. 2012), and nostalgia has been shown to decrease stress (Routledge et al. 2011), which leads to the possibility that increasing stress would increase nostalgia. It is also hypothesized that most other physiological threats would increase nostalgia, for example; hunger, as testimonies of concentration camp survivors point out that while they were starving, they would nostalgize over some of the best foods they had eaten in their lives (Goldenberg 2003); and thirst, as Zhou, Wildschut, Sedikides, Chen, et al., 2012 present anecdotal evidence with which most can relate to that a “feeling of intense thirst triggers thoughts of water”, which perhaps like hunger could “take the form of nostalgic recollections.”

Thus, it is reasonable to think that nostalgia, as a coping mechanism, could be used during any self-threat situation, psychological or physiological.

Although, there are likely limitations that significantly lessen the prevalence of nostalgia during certain threats. For example, even though death anxiety increases nostalgia (Juhl et al. 2010), perhaps if there is not enough time to think about one’s past during a death threat, such as if an individual is trying to escape from a burning building, maybe the individual will not begin to nostalgize – although, there is a common saying that your life flashes before your eyes when you die. Perhaps this would count as nostalgia?

### 3.3. The Effects of Nostalgia

Combating the threats to the self with counteracting memories result in a slew of effects, but in particular the decreased prevalence of threats (Hepper et al. 2012; Wildschut et al. 2006). However, understanding what those effects are is difficult as they are fragmented into a wide range of studies, although, the Sedikidean functions do come close in presenting the main effects of nostalgia.

The effects of nostalgia can be divided into two main categories; psychological effects and physiological effects, as is common in the field of psychology (Ley 1992; Monroe 1967).

#### **Physiological effects**

The physiological effects have to do with promoting physiological comfort as responses to physiological discomfort, for example, in the case of being in a cold room, nostalgia will increase feelings of warmth (Zhou, Wildschut, Sedikides, Chen, et al. 2012). However, additionally the security of the self in general leads to a sense of calm, due to lowering stress and anxiety (Juhl et al. 2010; Routledge et al. 2011), making it understandable that a sense of calm is one of the most common feelings appearing in descriptions of nostalgic feelings (Hepper et al. 2012). A result of that sense of calm is that nostalgia increases patience, for example, nostalgic consumers will slow down and spend more time in stores (Huang, Huang, and Wyer 2016).

#### **Psychological effects**

Psychological effects in turn can be divided into social effects and person-level effects; consistent with the functional arguments by Sedikides and company of nostalgia as divided into social connectedness and self-positivity, one which centres on communion and the other which is more agentic (Hart et al. 2011; Hepper et al. 2012; Sedikides et al. 2016).

#### **Person-level effects**

The person-level effects generally arise from self-positivity but also from social connectedness (Hart et al. 2011; Wildschut et al. 2010). The reason why these effects are then not classified as social effects is that they do not mandate communion, even though that social component can still appear. For example, self-regard can be caused by both self-positivity and social connectedness (Cheung et al. 2013; Wildschut et al. 2010), however, social elements, such as feeling attached to others, are not caused by self-positivity, as is apparent when researching narcissists (Hart et al. 2011).

From a marketing perspective, increased positive affect is perhaps the most easily useful person-level effect, as consumers who feel happy about ads will have more positive outlooks on the ad and the advertised brand (Muehling et al. 2014). Thus, it could be considered that promoting nostalgia would always be a positive.

However, one of the inevitable consequences of the function of reminiscing and of nostalgia is that the individual expends mental capacity towards the act of remembrance. For marketers

this is very important because it results in that nostalgic ads decrease message processing, even though they do yield favourable attitudes towards the ad and the brand (Muehling and Pascal 2011; Muehling and Spratt 2004). Essentially, if the purpose is to get a consumer to think about a message, a nostalgic ad is not effective because the consumer will expend more of their thoughts towards their memories instead of the ad's content. Expending mental capacity presents itself by definition in every nostalgic experience, which is why it is important to present reminiscing as a core function and effect of nostalgia.

Other effects than positive affect that have been noted are increased self-esteem/self-regard, increased existential meaning, and increased security in the face of death anxiety, all of which share an element of self-worth and finding one's life to be significant (Cheung et al. 2013; Juhl et al. 2010; Routledge et al. 2011).

Self-worth and finding significance in one's own life result in many sub-effects. For example, a desire and a lack of meaning in life is a core motive for self-sacrificial acts, such as suicide bombing (Post 2009), which is why nostalgia decreases the inclination towards self-sacrificial behaviour as nostalgia adds meaning and significance to one's life (Routledge et al. 2014).

Increased self-esteem also explains the increase of creativity when waxing nostalgic (van Tilburg, Sedikides, and Wildschut 2015). The link between creativity and nostalgia shows the major known effects of self-esteem. Self-esteem increases optimism (Cheung et al. 2013), which reduces conservatism and risk aversion (Anderson and Galinsky 2006), which in turn increase openness to experience (Van Hiel and Mervielde 2004). Openness to experience happens to be a causal precursor for creativity (Feist 1998). Additionally, self-esteem increases inspiration and motivation (Stephan et al. 2015), which also positively relate to openness to experience (Thrash and Elliot 2003), thus increasing creativity.

### **Social effects**

The social connectedness function as presented by Sedikides and company (Wildschut et al. 2010) is quite good in presenting the social effects of nostalgia, however, the threats that they result from are best presented through the insecurity perspective as presented by Zhou et al. (2013). The consequences of increasing attachment security and social (performance) security are an increase in feeling socially connected and an increase in prosocial behaviour or social competence (Wildschut et al. 2010, 2014; Zhou et al. 2013).

Attachment security leads to increased compassion/empathy and altruism (Mikulincer et al. 2005, 2001). Nostalgia has been, for example, found to reduce prejudice towards overweight individuals (Turner, Wildschut, and Sedikides 2012). Nostalgia has also been found to promote charitable intentions and behaviour (Ford and Merchant 2010; Zhou, Wildschut, Sedikides, Shi, et al. 2012).

Nostalgia also weakens an individual's attachment to material things, such as money (Lasaleta et al. 2014). Note that the act of giving money to help others and attachment to money are slightly separate; giving money to help others is a part of the altruism/empathy aspect of

nostalgia (Zhou, Wildschut, Sedikides, Shi, et al. 2012). The loss of attachment to money, on the other hand, results in people being willing to pay more for products, which does not relate with charitable intentions, even though these two elements can be used together by, for example charities (Lasaleta et al. 2014; Zhou, Wildschut, Sedikides, Shi, et al. 2012). The reason why attachment to money decreases is that social connectedness and money are in a way treated as substitutes; having and desiring money reduces the desire for social bonds and creates a preference towards isolation, and vice versa, desiring social bonds reduces the desire for money and creates a preference for communion (Lasaleta et al. 2014; Vohs, Mead, and Goode 2006, 2008). It is no surprise that periods when people feel nostalgic are times of high consumer spending, such as, Christmas (Lasaleta et al. 2014).

The prosocial behaviour component of nostalgia, includes willingness or desire to socialize and ability to socialize (van Dijke et al. 2015; Loveland et al. 2010; Wildschut et al. 2006, 2010, 2014). Nostalgia has been, for example, found to increase an individual's willingness to cooperate with authorities when facing procedural injustice (van Dijke et al. 2015). The competence aspect of prosocial behaviour in nostalgia appears when asking groups to evaluate the social competence of others in the group; nostalgic group members are evaluated more positively than non-nostalgic members (Wildschut et al. 2014, 2010).

### 3.4. Individual Differences

The current hypothesis is that none of the social effects of nostalgia arise in those who communion is not a core characteristic of the self-concept (Baldwin et al. 2015). It has already been shown that attachment security does not increase among those who are high in avoidance or high in narcissism (Hart et al. 2011; Wildschut et al. 2010). However, it is yet unknown whether or not the prosocial behaviour would appear in such individuals.

In general, individual differences are poorly understood when it comes to nostalgia as most of the research has been related to averages of populations (Wildschut et al. 2010).



## 4. Nostalgia framework

Currently nostalgia seems like a feeling with multiple independent functions and independent effects as there is no framework that presents the entire nostalgic process from triggers to functionality and consequences. There are lists of functions and attempts at presenting the fundamental cause of nostalgia (Baldwin et al. 2015; Hepper et al. 2012; Zhou et al. 2013). But no one has tried to create a framework of the entire process.

A guiding framework of the entire process is needed as it would provide clarity to a currently fragmented field of research that is challenging to navigate, due to a large amount of independently presented functions and effects. It would make finding new and creative uses of nostalgia easier if the triggers, functions, and effects were understood in conjunction with each other. Thus, I present a new framework that aims to understand the entire nostalgic process, beginning with what triggers it and ending with what the resulting effects are.

For this new framework I have chosen a step by step approach, going from one stage of the nostalgic process to the next in a linear fashion.

A linear framework accurately depicts nostalgia because specific threats trigger specific nostalgic recollections which cause specific effects. However, increasing specific effects do not increase felt threats and increasing nostalgic recollections do not increase felt threats. For example, increasing social connectedness will logically not increase attachment insecurity. This means that the latter stages of nostalgia do not affect the previous stages of nostalgia but the initial stages do affect those stages that follow. Thus, the process of nostalgia is linear.

There were two options of specific linear framework depictions that were considered. One option was a tree diagram where each specific threat creates the categories below self-threats and these would sprout specific effects. However, that would rely on specific examples of threats to understand nostalgia and would never be strictly speaking ready as new threats and effects are found all the time. As the amounts of the known threats and effects grow, it would become difficult to understand nostalgia by looking at a huge tree diagram with dozens of threats and even more effects.

Also, the purpose of this framework is to understand the process of nostalgia. A tree diagram would quickly miss out on the understanding of how nostalgia functions, specifically, how the specific effects in reaction to specific threats come about. Essentially a tree diagram would lose the core of what nostalgia is, specifically that it is a process of recalling memories that counteract specific threats.

Thus, the second option was chosen where nostalgia is divided into steps that encompass all the threats and effects without having to rely on any specific example to understand how nostalgia functions. Most importantly this allows for a more functional perspective, making it easy to take into account the recollection phase of nostalgia.

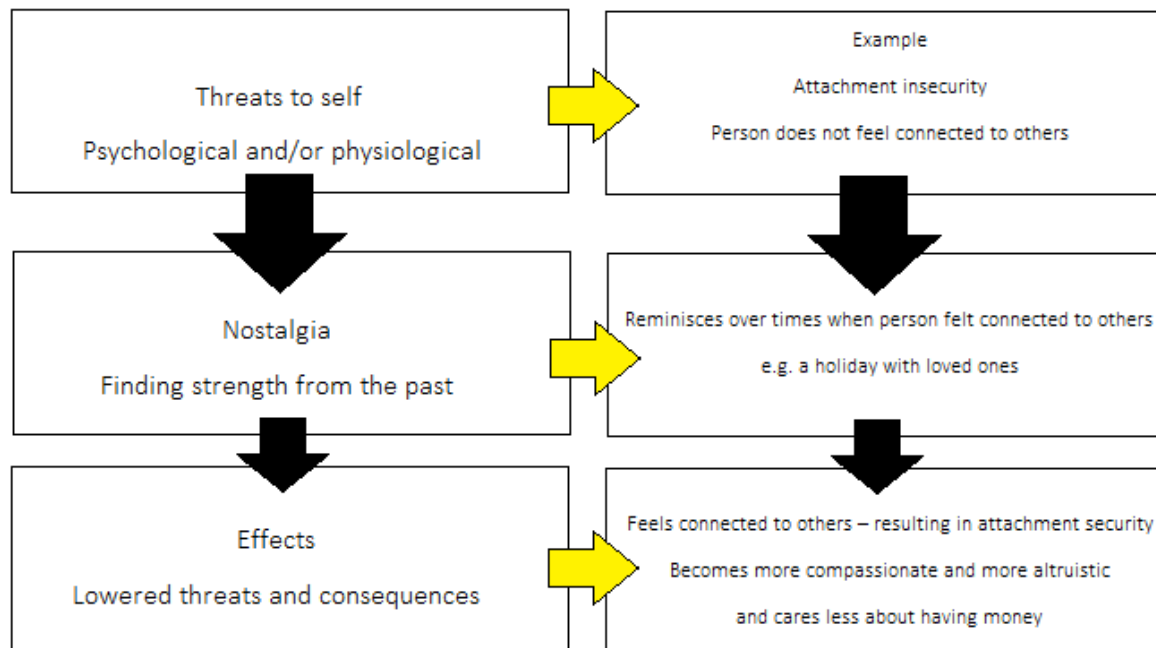


Figure 1.0

This new nostalgia framework is divided into three steps.

Step 1: Threats to self – psychological and/or physiological

Step 2: Nostalgia – finding strength from the past

Step 3: Effects – lowered threats and consequences

### Step 1

The current hypothesis would be that any threat to the self causes nostalgia, be it psychological or physiological, although a small caveat is that the threat must be known about in order for the mental processing required for nostalgia to occur. For example, having cancer will likely not increase nostalgia if it is not known about. But once it would be known, nostalgia would probably increase as death anxiety increases nostalgia (Juhl et al. 2010).

More generally it is accepted that at least most if not all psychological threats cause increased nostalgia (Baldwin et al. 2015; Hepper et al. 2012; Sedikides and Strube 1997; Wildschut et al. 2006; Zhou et al. 2013). However, the case for physiological threats causing increased nostalgia is also quite strong, at least to the point that physiological discomfort increases nostalgia as both cold and likely increased stress increase nostalgia (Wildschut et al. 2010; Zhou, Wildschut, Sedikides, Chen, et al. 2012). Because a lot of research has been conducted about the threats that increase nostalgia, at this point the question inevitably becomes if there is any threat that does not increase nostalgia.

At this point decreased meaning in life, self-doubt, attachment insecurity, death anxiety, social performance anxiety, negative affect, pessimism, stress, and cold have all been found to

increase nostalgia (Baldwin et al. 2015; Hepper et al. 2012; Juhl et al. 2010; Wildschut et al. 2006; Zhou et al. 2013; Zhou, Wildschut, Sedikides, Chen, et al. 2012).

As there is a general consensus that nostalgia is a coping mechanism or in other words a response towards self-threats, this is clearly the first stage (See appendix A).

## **Step 2**

As a person faces threats to the self, it is in their interest to combat those threats (Sedikides and Strube 1997). People have many coping mechanisms that combat threats to the self and nostalgia is one of them, as nostalgia has been shown to effectively lessen felt threats and insecurities (Baldwin et al. 2015; Hart et al. 2011; Vess et al. 2012).

An individual uses the coping mechanism of nostalgia by using memories to find relevant strengths in order to counteract specific threats. For example, lonely individuals may reminisce of times when they were with loved ones (Zhou et al. 2008), and individuals who doubt themselves may reminisce of great personal success (Hart et al. 2011). Such memories will then conflict with the thoughts that cause the threats, such as, that one is not connected to others or is not competent.

This step 2 is important as it shows what kind of memories need to be activated for specific threats to be combated and also what memories need to be activated in order to evoke specific effects.

The question remains, however, if this step should be divided into social and person-level recollections as, for example, narcissists do not use social memories during nostalgic reverie (Hart et al. 2011). Although, it may not be beneficial to complicate the understanding of nostalgia unnecessarily. But there is also another reason why this stage or any other stage does not need to be divided in order to take into account different personality traits. That is because the differences between personality traits are explained with the framework as is.

For example in regard to high avoidance individuals, social memories are not filled with relevant strengths to counteract their specific threats. For example, they do not tend to feel as much attachment insecurity, which also means that they do not generally need nostalgia to increase attachment security. Thus, social connectedness memories are not as useful for them in general. (Wildschut et al. 2010)

The relevance of the strengths provided by the memories is very important because if the strengths are not relevant to the specific threat, then the threat will not be mitigated.

## **Step 3**

The memories will counteract the threats with corresponding positive effects and positive affirmations of the self. For example, the corresponding effect of low meaning in life is higher meaning in life (Routledge et al. 2011), and the corresponding effect of pessimism is optimism (Hepper et al. 2012).

Those opposite counteracting feelings, e.g. of increased self-esteem or attachment security, will then have certain specific consequences. For example, increased attachment security will result in increased empathy, altruism, and reduced attachment to money (Lasaleta et al. 2014; Mikulincer et al. 2005).

It could be that the lowered threats and consequences of lowered threats should be divided into two separate steps, however, I find this unnecessary because the lowered threats and consequences are themselves connected to each other.

This connection comes from the idea that lowering a specific threat will have specific consequences and those consequences have not been noted to vary in any of the nostalgia research. Basically every time a threat is decreased it will always have the same effects.

However, if it would be found out that the consequences vary such that increased attachment security, for example, does not always increase empathy and reduce attachment to money then perhaps the third step should be divided into lowered threats as step three and consequences as step four.

However, as this is speculative, for now it is enough to keep the effects of nostalgia as the main category and simply specify that lowered threats are the main effect which will then have specific consequences.

## 5. General Discussion

The presence of nostalgia in marketing is pervasive, rearing its head practically everywhere, although, this is not surprising considering the preference of consumers towards nostalgic products and content (Loveland et al. 2010; Rindfleisch et al. 2000; Zhou et al. 2013). For example, consumers show a preference towards nostalgic advertising, and such advertising yields more positive brand-related outcomes than non-nostalgic advertising (Merchant et al. 2013; Muehling et al. 2014); this is naturally beneficial for marketers. The positive outcomes are due to the power of association; as consumers feel nostalgic, they will feel many positive effects (e.g. Wildschut et al., 2006, 2010; Zhou, Wildschut, Sedikides, Chen, & Vingerhoets, 2012), which they will then associate with the ad and/or brand in question. But what are those positive effects?

The probability that an object, such as an ad or song, will evoke nostalgia is defined by, for example, how autobiographically relevant or familiar the object is (Barrett et al. 2010). However, most specifically the probability that a person will experience nostalgia is defined by how significant threats the person is experiencing (Barrett et al. 2010; Wildschut et al. 2006). This is because nostalgia is a response to threats to the self and it even successfully mitigates those threats, making nostalgia a coping mechanism (See appendix A).

The positive effects of nostalgia result from mitigated threats and are both varied and numerous. For example; physiological effects, such as increased warmth and a sense of calm (Hepper et al. 2012; Zhou, Wildschut, Sedikides, Chen, et al. 2012); and psychological effects, such as a reduced attachment to money caused by an increase in attachment security (Lasaleta et al. 2014) and reduced risk aversion caused by an increase in optimism (Anderson and Galinsky 2006; van Tilburg et al. 2015).

However, understanding these effects or attempting to navigate through them is tedious and challenging because so far the nostalgia research has not presented any congruous framework to understand nostalgia and its effects.

Therefore, I created a new framework which states that when a person faces threats to the self, they may use nostalgia to combat those threats by finding relevant strengths from one's memories that counteract the specific threat. This will lower the threats and lowered threats will have some specific consequences or effects that vary depending on the specific threat.

This framework adds much needed clarity to a fragmented and list-centric field of research, where usually nostalgia is explained by simply listing various qualities, triggers, functions, and effects, such as, when presenting nostalgia as a prototype or list of common traits (Hepper et al. 2012), or the list of predictors of nostalgic reactions (Barrett et al. 2010) and list of main functions (Wildschut et al. 2006). The framework provides the nostalgia research a depiction of the mechanism of nostalgia, thus, not relying on any specific function in order to understand nostalgia, which is necessary because it has been pointed out that nostalgic experiences do not tend to have consistent characteristics (Wildschut et al. 2006). Each nostalgic experience is

different according to the specific threat that the individual is experiencing and the effects reflect this as well. The presented framework for nostalgia takes into account the variation between different experiences of nostalgia.

This framework also allows for additions, presenting automatically that the mentioned specific threats and effects are likely not the only ones, thus, the future research is better accounted for. This is not the case with, for example, the four functions model presented by Sedikides and company as that model specifies the specific functions included (e.g. Hepper et al., 2012). The risk is that some may end up ignoring other functions when looking at nostalgia or simply may end up not being aware that there are any other functions.

Understanding the psychology of nostalgia presents many opportunities from a marketing perspective because consumers have been found to prefer nostalgic products when facing threats to the self, such as, when they feel lonely or when they face death anxiety (Loveland et al. 2010; Zhou et al. 2013). Nostalgic consumers have also been found to prefer certain kinds of content in entertainment; for example, preferring tender light-hearted films rather than violent ones (Holbrook 1993), which means that nostalgic consumers prefer more optimistic movies. This indicates that consumers will gravitate towards content and products that satiate the threats that nostalgia is triggered by.

The consequence of this for nostalgia marketers is that it becomes important to create sales channels and products that take into account the common threats related to nostalgia, for example, by selling through social channels like online communities (Loveland et al. 2010). Co-creation is also a way to add a social element to nostalgic content (Brown et al. 2003).

Pokémon go is a perfect example of a game that takes into account the threats related to nostalgia, which may explain a part of the game's success. In a study by Yang & Liu (2017), the main motivations for playing Pokémon go were found to be: Exercise, Fun, Escapism, Nostalgia, Friendship Maintenance, Relationship Initiation, and Achievement. These motivations are heavily linked to the threats involved with nostalgia; relationship initiation and friendship maintenance directly satiate the need to belong, fun improves negative mood, and achievement increases self-regard.

Additionally, what may add to the success of Pokémon go is that nostalgic people are more willing to spend with their money (Lasaleta et al. 2014), which may perhaps translate to paying more for in-game purchases than non-nostalgic consumers would pay.

Movie trailers with sad music (Ranker.com 2017) also use the function of nostalgia creatively, as the sad music will trigger sadness in viewers, making it more likely that the viewer will experience nostalgia because negative mood triggers nostalgia (e.g. Wildschut et al., 2006; Barret et al., 2010). Thus, the trailer and the advertised film will more likely receive the positive effects involved with nostalgic advertising (Muehling et al. 2014).

These examples present exactly how the presented framework could be useful to marketers. As specific threats are alleviated by specific memories and feelings, causing specific effects, it

indicates that marketers should target those specific threats to garner desired outcomes. Another point from the framework is that increasing threats will increase nostalgia and the intensity of the effects.

However, such use of nostalgia has some ethical ramifications. Because increasing threats to the consumer increases the likelihood that they will feel nostalgic, companies that would benefit from nostalgic consumers may desire to trigger threats in consumers. However, this can be a questionable line to tread. E.g. one might say it is ethical to play sad nostalgic music to make people more likely to feel nostalgic, but one may draw a line in threatening consumer's lives to make them more nostalgic. It is difficult to say at what point such manipulation becomes unethical.

Also, there is an argument that nostalgia may decrease well-being, as it does correlate with decreased well-being (Yang and Liu 2017). Naturally the more a person feels nostalgic the worse off they probably are, because nostalgia increases the more threats an individual is experiencing. However, the question is whether or not nostalgia is a good or healthy way to combat those threats because the actual problem involved with the threat does not get addressed.

For example, feeling nostalgic may make one more resistant to cold temporarily, however, the problem, which is that one is in a cold place, does not go away. In fact, feeling nostalgic will make the person feel warmer, which will reduce their need to remedy and act on the situation (Zhou, Wildschut, Sedikides, Chen, et al. 2012). This might be a problem if reducing the push towards action occurs when action is necessary.

Thus, should marketers worry about possibly lessening their consumer's well-being? And even if nostalgia does not decrease well-being, nostalgia does increase with lower well-being, so are there consequences of having a consumer base that is lower in well-being? These are questions that remain unanswered.

## 5.1. Limitations and Future Research

The presented nostalgia framework has a few key limitations, specifically one involved with physiological threats and the other with individual differences.

Although it is quite clear at this point that psychological threats increase nostalgia, physiological threats remain somewhat of a hypothesis, even though the case for them is strong. Although, stress and cold have been shown to increase nostalgia, more research needs to be conducted to verify the hypotheses that other physiological discomfort increases nostalgia, such as, hunger, extreme heat, thirst etc.

Although, this does not significantly affect the framework as it only changes what the distinct definition of self threat is in the nostalgia context. This means that the structure of the framework would remain the same, even if it would turn out that the hypotheses that physiological discomfort increases nostalgia is wrong. But regardless, further research must be conducted.

Additionally, the understanding of individual differences is poor. Although the current hypothesis is that none of the social aspects of nostalgia appear in for example narcissists, currently it is only proven that they do not show the attachment security side of nostalgia. Whether or not the social competence elements appear is unknown.

However, people are usually not 100% narcissists or 100% in avoidance – thus, the expectation is that the social effects should still appear although lessened if someone is more narcissistic or higher in avoidance. Also, the other side of the coin is poorly understood. How does, for example, low avoidance present itself? It is presented that low avoidance lowers the use of more agentic recollections (e.g. personal success) in nostalgia (Wildschut et al. 2010), however, it is unclear if this means that people who are 100% in communion will only use communion aspects of nostalgia.

Understanding individual differences is important because each nostalgic experience is slightly different and the understanding that communion (or extraversion) changes the nature of nostalgic experience towards a more communal direction indicates that personality traits may provide a foundation to understand why each nostalgic experience is different and how those variations can be mapped and predicted. The current framework is largely designed based off research that has been conducted through averages of populations. Thus, it is difficult to estimate how the experience would vary between individuals.

Future research could specifically investigate, for example, how the nostalgia experience is effected by the big five personality dimensions: extraversion, emotional stability, agreeableness, conscientiousness, and openness to experience (Barrick and Mount 1991).

Finally, the negative effects of nostalgia have largely been ignored in research. This is partly because Sedikides and company often brush them aside simply by stating that “nostalgia is



more positive than negative” - (Wildschut et al. 2006). However, another reason is partly that nostalgia is indeed more positive than negative, which perhaps overrides any of the negative effects that result from some of the more negative feelings associated with nostalgia, such as, a sense of loss or sadness (Hepper et al. 2012). This may cause a challenge in isolating the negative feelings so that they can be reliably measured or understood.

But this is not to say that negative emotions involved with nostalgia would definitely not have any negative effects and if they do, those negative effects would need to be accounted for in the presented framework.

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## Appendices

### Appendix A: Functions of nostalgia

Author(s) and year	x = Nostalgia presented as a coping mechanism/response to self-threats	x = Retrieved memories in nostalgic reverie specific to threat	Qualities								
			Positive affect	Self-esteem	Meaning in life	Existential security	Physiological comfort (e.g. warmth)	Attachment security	Social (performance) security	Optimism	
Wildschut et al. 2006	x	x	xv	xv					xv	xv	
Huang et al. 2016	x	x						x			
Hepper et al. 2012	x	x	xv	xv	xv	xv	x	xv	xv	xv	x
Baldwin et al. 2015	x	x	x	x				x	x	x	
Barret et al. 2010	x	not specified	x								
Routledge et al. 2011	x	x	xv	xv	xv	xv	x				
Zhou et al. 2008	x	x							x		
Lasaleta et al. 2014	x	x							x		
Cheung et al. 2013	x	x		x					x		x
Zhou et al. 2013	x	x		xv	xv	xv			xv	xv	
Zhou, Shi, et al. 2012	not specified	not specified							x	x	
Zhou, Chen, et al. 2012	x	not specified						x			
Van Dijke et al. 2015	not specified	x							x	x	
Juhl et al. 2010	not specified	not specified			x	x	x				
Wildschut et al. 2010	x	x	xv	xv					xv	xv	
Van Tilburg et al. 2015	not specified	x		x							x
			Increase in nostalgia increases quality:						x		
			Decrease in quality increases nostalgia:								
			mentioned as core function:						v		