The effect of nostalgia and anemoia on mood and the moderator role of creativity

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Abstract

A positive effect of nostalgia and creativity on people's current mood has been established. Anemoia, a nostalgic feeling about a place/time you never experienced, is of particular interest since it has not been scientifically studied yet. It could be assumed that it has similar but weaker effects than nostalgia.

This study aimed to investigate the effect of nostalgia and anemoia on people's current mood and how this could be influenced by creativity. We hypothesized that: (a) nostalgia and anemoia will have a positive effect on mood; and (b) the influence of people's creativity level on these effects.

We conducted an online study in which n = 85 participants were randomly assigned to one of the three manipulation conditions (nostalgia, anemoia, and control) which were constructed based on the event reflection task.

Our data revealed no significant but positive effects of nostalgia and anemoia on mood. Furthermore, our moderator hypothesis revealed a nonsignificant but interesting pattern. Anemoia had a higher effect on mood compared to nostalgia for people high in creativity, while the effect of nostalgia was stronger for people low in creativity.

While our study did not provide support for the hypothesized effects, it suggests a potential benefit of anemoia and nostalgia on mood and a potential influence of people's creativity level on these benefits. However, it also highlights the need for further research to better understand the impact of nostalgia and anemoia on mood as well as the role of creativity in these processes.

Keywords: Anemoia, nostalgia, mood, creativity

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"anemoia, nostalgia for a time you never experienced."

— John Koenig, The Dictionary of Obscure Sorrows

Nostalgia is the bittersweet longing for the past, where memories and emotions intertwine to evoke a sentimental yearning (Wildschut et al., 2006). Positive and negative emotions, such as happiness, grief, and a sense of loss can be mixed together in the experience of nostalgia. Despite the fact that these feelings are frequently seen as benign or even pleasurable, their effects on mood and mental health have drawn more attention in recent years. Research highlights the beneficial effect of nostalgia on people's mood by evoking positive memories related to close relationships or self-achievements. (Faul & De Brigard, 2022).

A closely related construct that bears a close resemblance to nostalgia but has not been empirically studied yet is anemoia. People describe it as a nostalgic emotion for a period that one has never personally experienced (for illustrative purposes see Ronan, 2019). While it is a different kind of nostalgia, it seems to differ in some key aspects. It does not rely on autobiographic memories, as a result of which one might expect a different effect on mood. Due to the current lack of research, we wanted to investigate the effect of anemoia compared to nostalgia in more detail.

In addition to comparing nostalgia and anemoia, we also investigate to what extent their effects are moderated by creativity. Research showed that creativity is linked to an enhancement in mood (Davis, 2009), but its interplay with nostalgia and especially anemoia has not yet been investigated before. It could be an important factor to strengthen the relationship between nostalgia/anemoia and mood.

In this study we wanted to investigate the effect of nostalgia and anemoia on people's current mood and how this effect is influenced by the individual's creativity.

Mood

Mood is an essential part of humans' experiences and has a significant effect on their daily life and well-being. It is a pervasive and persistent emotional state that affects how someone perceives their environment and engages with it (Davidson et al., 2002). Studies showed that mood influences different behavioral and cognitive outcomes. On the one hand, low mood can lead to a decrease in health and well-being, as well as poor cognitive performance and attention span (Brosschot et al., 2006). On the other hand, research showed its positive relationship to creativity, as well as adaptability and bad attention (Erez & Isen, 2002). High mood can positively influence our cognitive abilities and well-being and was found to be related to a high level of social interactions (Forgas, 1998; Kuczynski, 2022).

Therefore, a majority of research has focused on identifying different factors that affect people's mood. These factors stretch across many different domains. Some of these domains are physiological factors including sleep, exercise, and nutrition (Smith & Alloy, 2009), and environmental factors such as light exposure, culture, and social interactions (Wirz-Justice, 2006; Kuppens et al., 2010). The area that researchers especially focus on is the influence of psychological events and health on an individual's mood. In particular, stress and anxiety have been found to reduce people's mood, while joyful feelings and higher motivation are among the strongest determinants of positive mood (Mauss et al., 2011; Giles et al., 2014). Understanding the elements that determine mood and how it might be controlled is an important field of research given the significant role that mood plays in daily living. One of these psychological factors that is recently studied is nostalgia.

Nostalgia

Nostalgia can be defined as "the affective experience of longing for an idealized past" (Sedikides & Wildschut, 2016, p. 311). It is a complex emotion that involves a mixture of positive and negative feelings, including happiness, sadness, and longing (Sedikides & Wildschut, 2016). Research has shown that nostalgia is a typical and pervasive emotion that affects people of all ages and cultural backgrounds (Batcho, 2013; Sedikides et al., 2015). According to one study, more than 80% of participants said they felt nostalgic at least once a week (Routledge et al., 2011).

Many impacts of nostalgia on psychological and behavioral outcomes have been discovered. Some of them showed negative influences of nostalgia on loneliness and well-being (Newman & Sachs, 2020). However, the majority of research found evidence for a beneficial effect on different psychological variables. Nostalgia has been associated with an increase in various feelings of pleasure, self-esteem, and a sense of meaning in life. (Wildschut et al., 2006; Zhou et al., 2008). We will look into three of these in more detail. Firstly, nostalgia can bring up memories of important relationships and previous interactions, fostering social attachment and a sense of belonging (Sedikides et al., 2015, Zhou et al., 2008). Secondly, nostalgia was shown to be triggered by high levels of stress as a coping response and was connected to a higher stress threshold (Routledge et al., 2013; Sedikides & Wildschut, 2018). Lastly, by fostering a stronger sense of connection to one's former self and a meaningful view of one's existence, nostalgia has also been shown to boost self-esteem, meaning in life, and mood (You & Zhong, 2022; Zhou et al., 2008).

When looking at nostalgia’s influence on mood, we found a similar pattern of its effects. A few studies discovered that in certain situations, nostalgia could have a negative impact on the individual´s mood. The focus on an idealized past might lead to negative emotions like regret about current choices, melancholy, or even depression (Juhl &

Routledge, 2018). Since nostalgia is a longing for a past that is unreachable it can lower mood and create disappointment (Sedikides & Wildschut, 2016). However, again, nostalgia showed more beneficial effects on mood than negative ones, four of these will be highlighted below. Firstly, a high level of nostalgia was found to buffer against deteriorating mood states and predict mood improvement (Faul & De Brigard, 2022), which is associated with central features of well-being, like desire-satisfactions and happiness (Kriegel, 2021). Secondly, studies found that nostalgia can be a direct response to negative emotions and low mood (Wildschut et al., 2006) and counter them by increasing feelings of happiness, joy, and pleasure (Sedikides et al., 2015; Layous, 2023). Thirdly, nostalgia might help people in controlling negative mood states like melancholy by bringing up memories of social interactions and achievements (Sedikides et al., 2015). Lastly, even when the nostalgic memory contains negative experiences in the past, it had a positive effect on mood afterwards. The “bittersweet” feeling of nostalgia is often seen as something positive and is related to a feeling of “moving on” from a difficult time and the achievement of overcoming these experiences (Wildschut et al. 2006). When comparing research about the negative and positive effects of nostalgia, there is a clear tendency for a favourable effect of nostalgia on mood. Therefore, we hypothesise in our study that the experience of nostalgia will positively affect the current mood.

Anemoia

In his book “The Dictionary of Obscure Sorrows” the author John Koenig used the term "anemoia" to express the desire to return to a past or location that one has never experienced with the rising of a nostalgic feeling (Koenig, 2014). The term anemoia has been used a number of times in unscientific papers about media and collective memory, however, it has not been properly studied yet (Cornejo, 2018). It is described as a different kind of nostalgia but its effects and influences are still unknown and need to be investigated more.

Two similarities and one difference between anemoia and nostalgia will be discussed in more detail below.

As anemoia is described as a “nostalgic feeling”, its similarities to nostalgia could suggest a similar effect on mood and well-being. Firstly, both describe a longing for an event or place that is out of reach, which could elicit the “bitter-sweet” feeling described earlier. Secondly, anemoia may serve as a new way to evoke a nostalgic response, particularly in times of loneliness or crisis with unfamiliar experiences. By tapping into the desire for experiences that one has never had, anemoia may offer a unique avenue for individuals to find solace and emotional fulfillment. This suggests that the emotional experience associated with anemoia could provide a sense of comfort and connection, similar to what nostalgia typically offers. However, when looking at its definition, we also think it differs in one crucial way. Nostalgia is based on past memories that are important to the individuum. Its effect is often based on the feeling of personal achievement or social interactions in the past. Therefore, an intense emotion of a memory might be elicited to a comparable degree and strongly re-experienced. Meanwhile, anemoia does not rely on any autobiographical experience and consequently could not elicit comparably strong emotions that are connected to our personal life and accomplishments. Therefore, we could assume that the effect of anemoia is supported by less strong emotions compared to nostalgia.

Due to the similarities, we listed before, we predict for our study that anemoia will have a positive effect on mood like nostalgia. However, in regard to the difference in definition and the emotional foundation we hypothesise that its effect on mood will be weaker compared to nostalgia.

The relationship between anemoia or nostalgia and mood is complex and could depend on different variables, including a person's personal experiences and cultural background. To be able to enhance the beneficial effect of nostalgia on mood it is important

to investigate potential factors that influence their relationship. One of these factors that has been studied independently in regard to mood and nostalgia is creativity.

Creativity

Creativity is defined as having the capacity to develop original and practical concepts, products, or problem-solving techniques (Amabile, 1996). It is a complex and comprehensive concept that has been researched in a number of disciplines, including business, neuroscience, and psychology. According to several studies, creativity can improve a variety of psychological factors, such as cognitive performance (Dietrich & Kanso, 2010), well-being, life satisfaction, and social interactions (Kaufman & Beghetto, 2009). It can be seen in all kinds of psychological domains in many different variants, like problem-solving skills, creative writing or self-fulfillment (Lebedeva et al., 2019).

Many of these different variants have been shown to influence mood in some way. It was found that regular engagement in creative activities of any kind leads to an increase in positive and decrease in negative mood by fostering a sense of control, mastery, and self-expression (Fredrickson, 2001; Conner et al., 2018).

There is some research about creativity's complex relationship with nostalgia. On the one hand, a few studies indicated a negative effect on creativity. According to these, overindulging in nostalgia might cause creative production to lack originality (Chen et al., 2015) by focusing on previous trends and viewpoints rather than new, original ideas. On the other hand, most research showed a positive interplay with creativity by sparking imagination and mental flexibility and serving as a great source of inspiration for creative activities (Routledge et al., 2012). Furthermore, creative individuals tend to experience heightened emotional engagement and generate novel insights when recalling nostalgic memories, leading to a more pronounced positive impact on mood (Harrison et al., 2013; Verhaeghen et al., 2005). We, therefore, concluded that creativity may act as a positive moderator for the

effect of nostalgia on mood, with creative individuals experiencing amplified emotional engagement and a stronger positive impact on mood during nostalgic reminiscence.

There is no research about anemoia and its relation to creativity. Therefore, we can just assume how influential creativity could be. It could be possible that one's creative thinking enables us to engage in these imaginary scenarios that were never experienced before, and result in a higher emotional response and nostalgic feelings. We assume that creativity could assert its influence on the relationship between both types of nostalgia on mood in the same direction, considering their similarities and a possible similar effect of creativity on them.

There is no evidence in research that nostalgia has a negative effect for people low in creativity. Therefore, we hypothesized that for both people high and low in creativity, nostalgia and anemoia will increase mood. However, we believe this effect to be stronger for people high in creativity.

Present study

In sum, for this study, we hypothesized that: (a) both nostalgia and anemoia lead to an increased mood, but that this effect would be stronger for nostalgia and (b) for people high and low in creativity nostalgia and anemoia increase mood, however, this positive effect is stronger for people high in creativity.

The present study aimed to strengthen the evidence for the positive effect of nostalgia on mood and provide new research about anemoia. We believe this study adds to the current literature in four key ways. Firstly, little research is done about the effect of anemoia on people's mood and well-being. There are a few blogs and articles about the possible influence of anemoia, however, the effect of anemoia itself was not studied scientifically. Secondly, our study not just investigated the effect of anemoia on individuals' current mood but also compare it with the strength of the effect of nostalgia. This could give new insight into how

the effect of anemoia works and if it has a different approach compared to nostalgia. Thirdly, another relevant addition compared to other studies is the moderator creativity. The present study wanted to test in which way creativity impacts the potential beneficial effect of nostalgia. Lastly, our study could provide crucial insights into the therapeutic potential of leveraging nostalgia to enhance well-being and mental health, thereby informing the development of innovative clinical interventions. Understanding how nostalgia and anemoia impact mood may uncover effective strategies for managing emotional distress, fostering resilience, and promoting positive mental states in clinical settings.

Method

Participants

Our data set consisted of 164 cases. We removed 63 participations due to incompleteness. Incomplete cases were defined as all cases that did not get to the seriousness check at the end of our study. After excluding these 63 cases, we further removed 1 participant who indicated that they did not take the participation seriously. Lastly, we removed all cases that spent less than 30 seconds on the screen of the manipulation, since they needed to think and write about a specific event. The reason for this removal was the thought that they would not be able to give a serious answer to our manipulation in less than 30 seconds. Therefore, 15 participations needed to be removed. In final, our dataset consists of 85 cases with 51 female, 31 male, 2 others, and 1 participant, who did not want to indicate their gender. Our participants ranged from 18 to 60 years of age (M = 28.09, SD = 11.37). The participants were randomly collected by using the snowball method and via online forums. There was no general limitation on who can participate in this study. However, since our study was in English and not translated into other languages, people needed a basic understanding to read and write in English.

Design

Our study consisted of a between-subject design with one independent variable (IV) containing three levels (nostalgia, anemoia and a control group). Our participants were randomly assigned to one of these three conditions. The dependent variable was mood. In our study design, we also included the moderator variable creativity. This study was part of a bigger project which included additional moderating variables as well as one other dependent variable, see Appendix Table 1. These variables will not be further discussed.

Materials and Procedure

The online survey tool used for our study was Qualtrics software (Qualtrics, Provo, UT, 2023). As a first step, the participants were introduced to the aim of our study. However, to maintain the effectiveness of our manipulation and to minimise potential bias the participants were just briefly informed that the study was about investigating the influence of psychological variables on their perception of present and past, without mentioning anemoia and nostalgia. After being introduced to the study, they had to fill out a consent form to be able to participate. After signing the consent, the participants were asked to fill out the questionnaires for the creativity scale.

Creativity

The participants first filled out our measure of creativity ($\alpha = .63$). To ensure that the survey would not be too long a scale was needed that had a small number of items, used self-report of the participants, and captured different domains since we did not specify a specific kind of creativity. We decided to use the Creativity Scale for Diverse Domains (CSDD) of Kaufman and Baer (2004) consisting of 10 items to measure the self-reported level of creativity in general and in nine different domains. Studies found strong support for the CSDD as a short self-reported creativity scale, especially regarding the criterion-related validity of the questionnaire (Rawling & Locarnini, 2007). The participants were asked to

indicate their level of creativity in the different domains, for example, “How creative are you in the area of writing?”, on a 5-point scale from “Not at all” to “Extremely”.

Manipulation

After the questionnaire for the moderator, the participants were randomly assigned to one of the three levels of our manipulation. When thinking about different methods for our manipulation, we chose the Event Reflection Task (ERT), in which the participants have to recall and describe a specific memory, for which instructions differ per condition. It is the most commonly used and well-established manipulation in nostalgic research (Wildschut & Sedikides, 2022).

Nostalgia condition

Based on the ERT, in the nostalgia condition, the participants were asked to think about a situation when they felt highly nostalgic and instructed to briefly write down their memory. The participants were also provided with examples, like childhood memories and family vacations.

Anemoia condition

Since the term anemoia is a new upcoming description the majority of people are not aware of its meaning. Therefore, we asked the participants to think about a scenario that makes them nostalgic without ever experiencing this scenario. We gave an example, longing for a specific country or time period they never lived in, to illustrate anemoia. They briefly needed to write down this scenario. Since anemoia is not a part of the ERT, we newly developed this manipulation based on its relation to nostalgia.

Control condition

In the control condition, the participants needed to briefly describe an ordinary event that they encountered frequently (working routine, visiting a café), which was again based on the ERT. When thinking about a task for the control condition we concluded that it was

important to let them engage in a neutral writing task with fewer chances to evoke a nostalgic feeling.

To ensure confidentiality, we pointed out in every condition not to reveal any personal data, which makes it possible to identify a specific person.

Manipulation check

To check the effectiveness of our manipulation, we used a manipulation check. After the writing task, we asked them to indicate if they felt nostalgic at the moment. Since anemoia was often described as a nostalgic feeling for a moment we never experienced, we hoped that the question would also check the effectiveness of the manipulation in the anemoia condition. To not indicate that our study was about nostalgia and anemoia the participants were told that the following questions are about different mood states that people can experience after the task. We included two other questions "Right now, I'm feeling quite relaxed" and "I felt bored and had trouble focusing" to avoid that they would understand what the true focus of our study was.

Mood Scale

To measure mood, we selected the Scale of Positive and Negative Experiences (SPANE) ($\alpha = .73$). It is a short 12-item questionnaire with six items each assessing positive and negative feelings. For the positive and negative items, three of these items contained general questions (e.g., positive, negative), and the other free more specific ones (e.g., joyful, sad). The participant had to indicate what describes their current mood on a 5-point scale ranging from "strongly disagree" to "strongly agree". We treated the negative mood items as reverse-coded items and calculated the average of all 12 items combined.

Seriousness check and debriefing

After the participants finished all measurements and tasks, they indicated their age and gender, and we asked them to answer truthfully if they took the participation seriously.

Therefore, we could remove the data of these people. Lastly, we debriefed the participants about the true purpose of our study and why we did not inform them about the whole truth from the beginning.

Results

To analyse our data, we used the statistical software platform SPSS and the PROCESS macro (Hayes, 2013). Our first step was to check all assumptions for our analysis. Most of the assumptions were met, however, there was a slight deviation from normality. When looking at the skewness and kurtosis values we found a kurtosis value of 1,83 for nostalgia. According to the guideline from George and Mallery, a skewness and kurtosis score within the range of -2 to +2 is still acceptable (George & Mallery, 2010). Therefore, we could continue with our analysis without further steps.

Manipulation check

After the assumption check we analysed our manipulation check. The goal was to test the effectiveness of the manipulation on our participants. We conducted an ANOVA with our manipulation as the independent variable and the item 'Right now, I'm feeling quite nostalgic', our manipulation check, as the dependent variable. It was found that participants in the nostalgia (M = 3.10, SD = 1.21) and anemoia (M = 3.03, SD = 1.26) group score higher on our manipulation check compared to people in the control group (M = 2.71, SD = 1.16), with participants in nostalgia slightly higher than anemoia. However, we also found that the effect of our manipulation was not significant, $F(2, 84)= .77$, $p = .46$. This suggests that our manipulation was not fully effective, meaning our findings below should be interpreted with some caution.

Hypothesis test

To test our hypotheses, we ran an analysis with PROCESS with our manipulation as the independent variable, mood as the dependent variable, and creativity as the moderator.

We tested the first hypothesis that nostalgia and anemoia have a positive effect on mood with the effect of nostalgia being stronger compared to anemoia. In line with our first hypothesis, we found that participants in the nostalgia (M = 3.90, SD = .60) and anemoia (M = 3.89, SD = 0.62) conditions scored higher on mood than those in the control condition (M = 3.60, SD = .79). However, the effects for nostalgia ($t(84) = 1.50$, $p = 0.14$) and anemoia ($t(84) = 1.36$, $p = .18$) were found to be not significant.

Next, we investigated our moderator hypothesis, that for people high and low in creativity both nostalgia and anemoia lead to an increased mood, but that this effect is stronger for people high in creativity. The analysis showed no significant interaction effect for either nostalgia ($t(84) = -.51$, $p = .61$) and anemoia ($t(84) = .82$, $p = .41$). Both interaction effects were not significant and therefore, did not support our hypothesis that creativity moderates the relationship between nostalgia/anemoia and mood. However, an interesting pattern was noticeable when looking at the conditional effects. For people high in creativity, it appears that anemoia led to a higher increase in mood ($t(84) = 1.50$, $p = .14$) compared to nostalgia ($t(84) = .68$, $p = .50$). On the other hand, for people low in creativity we found the opposite: nostalgia was associated with a higher increase in mood ($t(84) = 1.45$, $p = .15$) compared to anemoia ($t(84) = .39$, $p = .70$). However, while we found an interesting pattern, it is important to mention that all these effects revealed to be not significant. Lastly, creativity showed a non-significant but positive effect with $t(84) = 1.07$ and $p = .29$.

Discussion

In our study, we investigated the effect of nostalgia and anemoia on people's mood with creativity as a potential moderator. We hypothesized that: (a) both nostalgia and anemoia lead to an increased mood but that this effect would be stronger for nostalgia and (b) for people high and low in creativity nostalgia and anemoia increase mood, however, this positive effect is stronger for people high in creativity. Our data revealed no significant effects of nostalgia and anemoia on mood, however, the means were in the predicted direction. Furthermore, for people both high and low in creativity, the effect of nostalgia and anemoia on mood was also nonsignificant but it showed an interesting pattern. Both hypotheses were not supported by our findings. However, it is still important to look into our findings in more detail. Below, we discuss the findings pertaining to the two hypotheses, and possible explanations for them in more detail.

First, we will discuss the findings of our two hypotheses. Firstly, the fact that no significant effect of nostalgia on mood was found in our study was unexpected, considering the substantial body of research that has consistently demonstrated its impact on mood (Faul & De Brigard, 2022; Sedikides et al., 2008; Routledge et al., 2013). Upon closer examination of our nonsignificant results, however, we observed that participants in the nostalgia group showed increased mood compared to the control group, which aligns with the existing literature (Sedikides et al., 2015; Wildschut et al., 2006). This suggests that there might have been an effect of nostalgia, but our study was unable to measure it accurately. Contrary to our prediction that nostalgia would have a stronger effect on mood compared to anemoia, the anemoia group showed a similar nonsignificant effect on mood as the nostalgia condition. This finding was surprising, considering the assumption that nostalgia's positive effect on mood is attributed to memories of meaningful relationships and self-achievements (Sedikides et al., 2015). We expected anemoia, which does not rely on such memories, to evoke weaker

emotions and have less effect on mood compared to nostalgia (Sedikides et al., 2015). However, our study did not find evidence supporting this assumption. Secondly, the lack of a significant effect for creativity as a moderator between nostalgia and mood is surprising because previous research suggested a positive interaction between nostalgia and creativity. We expected individuals high in creativity to experience a stronger mood effect in the nostalgia condition. However, we did find an interesting opposite pattern for people high and low in creativity. For the former, anemoia seemed to boost people's mood more, while for the latter, nostalgia had a stronger effect.

In this paragraph, we will look into four possible reasons why we were not able to measure an effect and one for the interesting pattern of our moderator hypothesis. Firstly, one explanation could be our small sample size. Due to time constrictions and our requirements, we were not able to achieve the number of participations we were hoping for, which made it harder to detect statistically significant findings. Secondly, our manipulation check for nostalgia was not significant which implies that our manipulation was not able to evoke nostalgia. This could suggest that our writing task was not enough to arouse a feeling of nostalgia. However, we built our manipulation on the ERT, which was found to be a very effective way to evoke nostalgia (Newman et al., 2020). Therefore, this explanation seems rather unlikely. Thirdly, participants' confusion and difficulty in connecting the different domains of our moderators to the topic of our study, their perception of past and present experiences, may have contributed to the lack of significant effects. The vague cover story and the inclusion of various topics in the initial questionnaires may have caused participants to be less focused on the task of recalling a nostalgic moment. This reduced concentration during the manipulation task could have hindered the intended elicitation of nostalgia and anemoia, resulting in the absence of significant emotional effects. However, based on the available indications, such as the low number of participants indicating they didn't take the

study seriously, the lack of remarks about confusion, and no signs of disengagement with the manipulation task itself, it seems unlikely that it had a significant impact on the results. Furthermore, this is hard to prevent. If we would have mentioned the complete purpose of our study at the beginning, we could have influenced our manipulation to evoke a nostalgic memory. Fourthly, when looking at the findings of our moderator hypothesis, the measurement of creativity using a self-report questionnaire may have contributed to the non-significant effects observed. Self-perceptions of creativity are known to be susceptible to measurement errors and biases, including the self-enhancement bias (Amabile, 1983). This bias can lead to inflated creativity scores and an artificial homogeneity among participants, which may obscure any potential moderating effects of creativity on the relationship between variables. However, due to time constraints and the restrictions of an online study, we chose a short and reliable self-report questionnaire. Self-report measures of creativity are commonly used in research studies due to their ease of administration, cost-effectiveness, and ability to quickly gather data from a large number of participants (Cropley, 2006). Therefore, they are still a reliable method to measure creativity. Lastly, since there is no research about the connection between creativity and anemoia, we can just speculate about possible explanations for the interesting pattern of our second hypothesis. A fundamental difference to nostalgia is that anemoia describes a feeling about a time or place that they never personally experienced. We could therefore assume that people high in creative thinking are more able to project themselves into a new and unknown scenario. This could evoke a higher emotional response and engagement which leads to a higher effect on mood. Nostalgia does not need this imaginative thinking and therefore might benefit less from a high level of creativity. Meanwhile, people low in creativity are not able to project themselves into the scenario and therefore experience a less emotional response through anemoia.

In sum, even though not significant, our study showed possible benefits of nostalgia on mood, in accordance with existing literature. For anemoia, our findings may suggest a similar effect, but it was found to be nonsignificant, and we are not able to support possible explanations with scientific research. Therefore, the effect of anemoia on mood and its difference from nostalgia remains unclear. We are not able to clearly state that people with low mood could benefit from the experience of anemoia. Meanwhile, our moderator hypothesis showed an interesting pattern, which could point to an interesting moderator role for creativity for both nostalgia and anemoia. Since all our findings showed non-significant effects, our interpretations about a similar effect of nostalgia and anemoia on mood and the influence of creativity on these effects need to be perceived with caution.

Limitations

Our study showed a few limitations, and we will look into three of these in more detail.

Our first limitation was the manipulation of our IV. We used the event reflection task to manipulate the feeling of nostalgia and anemoia. However, some research showed that nostalgia gets often triggered by external cues (Gibbs et al., 2021). When looking at possible ways to evoke nostalgia, music and movies are often mentioned as strong methods (Gibbs et al., 2021). Research has shown that music could evoke specific emotional states and activate brain regions associated with emotional processing and memory recall (Salimpoor et al., 2011; Sterenberg & Roth, 2023). Similarly, visual stimuli, such as videos or photographs, can trigger vivid memories and emotional responses (Horvat et al, 2015). Therefore, to heighten the chance to evoke nostalgia and anemoia, future research could include video or music stimuli. However, we decided against the use of music and videos for three reasons. Firstly, while studies confirmed the effect of music to trigger nostalgia, there is no research for anemoia. The manipulation to elicit one of these feelings could be very different when

including music. Secondly, since we wanted the same structure for all levels of our IV, we would have needed to include music or videos in our control condition which represented a neutral feeling. This could have changed when hearing music or watching a video. Lastly, the ERT has been shown to be very successful in a lot of nostalgic research and is the most used tool. Therefore, we used a well-established and common method.

A second limitation is the use of an online survey instead of a laboratory study to investigate the effect of nostalgia and anemoia on mood. Conducting the study in a controlled laboratory environment could have provided better control over external variables, such as distraction from smartphones or other people, that could hinder the emotional engagement in the written scenarios. Therefore, it can increase the chances of eliciting nostalgia or anemoia. However, when looking at the given resources and the sample size this study wanted to achieve, we decided to use an online study instead. Firstly, it gave us the opportunity to sample a wide range of individuals, since they could all easily excess the survey, for example, at home or at work. And secondly, an unfamiliar environment could also lead to distraction and may hinder that a feeling of nostalgia and anemoia arise.

Lastly, our third limitation is our generalizability. Due to our sampling method, the participants in the study may not represent the entire spectrum of individuals with varying levels of creativity and may not reflect the diversity of cultural backgrounds, or other demographic factors. For example, research showed that while nostalgia is a universal feeling, the way people perceive it differed between cultures (Bhattacharya et al., 2015). To address this limitation, future research could aim to recruit a more diverse and representative sample. Our study focused mainly on finding support for a positive effect of nostalgia and anemoia on mood. Cultural differences in perceiving nostalgia and anemoia would go beyond the purpose of this study.

Future research

Since our study focused on phenomena with little to no studies about them, there are many different aspects future research could focus on. Four possible aspects will be mentioned in more detail.

First, when looking at the effect of nostalgia, there seems to be a benefit for people in low mood. This could be further investigated in clinical settings as a potential method in treatment and therapy to counteract low mood resulting from psychological disorders, such as depression or anxiety. Hereby, it is important to study if the nostalgic memory of close relationships and self-achievements has a positive or negative effect in a clinical setting regarding restricted contact with family and friends. In regard to this, longitudinal designs are a crucial part of understanding the temporal dynamics and long-term effects of nostalgia on mood regulation. Examining how nostalgia evolves over time, its stability and its potential role in resilience or vulnerability to psychopathology will contribute to a comprehensive understanding of this phenomenon.

Second, anemoia is a new upcoming term and its effects have not been scientifically studied yet. Therefore, there are many aspects future research could focus on. However, when looking at our findings and their potential explanations, it seems very important to focus on the term and assessment of anemoia itself. Future research should develop valid and reliable measures to assess anemoia and its components, allowing for standardized investigations of the phenomenon. This includes especially establishing a clear definition and identifying clear differences to nostalgia. After that, we can further investigate emotional and cognitive processes associated with anemoia and its impact on mood. Understanding the mechanisms underlying the emotional experiences elicited by anemoia, such as the interplay between nostalgia and other emotions, can provide valuable insights into the link with mood regulation.

Third, when interpreting our findings, we relied on previous research about nostalgia and argued about possible similarities and differences between nostalgia and anemoia. We think that it is important to study the mechanisms underlying the interplay between anemoia and nostalgia further. This includes examining how they influence each other's emotional experiences, cognitive processes, and memory recall. Investigating shared and distinct neural pathways, emotional regulation strategies, and cognitive biases may provide insights into the complex interplay between anemoia and nostalgia.

Lastly, there is no scientific research about the effect of creativity on nostalgia and anemoia. Future research could provide insight how different aspects of creative thinking and expression within its domains could influence the experience and emotional responses of nostalgia and anemoia. Furthermore, exploring the potential use of creative thinking to enhance the effect of nostalgia and anemoia can have practical applications in daily life, such as mood regulation and increased well-being (Conner et al., 2018).

Conclusion

In summary, our study aimed to investigate the effects of nostalgia and anemoia on mood, with creativity as a potential moderator. However, our findings did not support our hypotheses. We did not find significant effects of nostalgia or anemoia on mood, and the moderator effects of creativity were also non-significant. Despite these non-significant findings, our study still suggests possible benefits of nostalgia for mood. The effects of anemoia on mood and its distinction from nostalgia remain unclear. However, we could argue that anemoia showed a similar effect on mood as nostalgia. Furthermore, the role of creativity in moderating the effects of nostalgia and anemoia on mood showed an interesting pattern. It depicts a potential influence of people’s creativity level on the benefits of nostalgia and anemoia, which requires further investigation. While our findings were not significant, the need for further research to better understand the impact of nostalgia and anemoia on mood

and the role of creativity in these processes was highlighted. Understanding these phenomena can give important insight into mood regulation and well-being.

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Appendix

Table 1

Overview of the additional variables
Loneliness (M)
Optimism (M)
Resilience (M)
Spirituality (M)
Meaning in life (DV)