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Musical Nostalgia and Sadness: Are we more likely to listen to nostalgic music when feeling sad?

Charlotte Smith
Durham University

ABSTRACT

Nostalgia can be triggered in response to negative mood states, with its psychological benefits acting as a "buffer" to discomfort. Due to its researched benefits in negative emotional states, the aim of this study was to discern whether individuals were more likely to listen to nostalgic music when they were sad rather than happy, and to examine whether the time period this nostalgic music came from aligned with Jakubowski et al.'s reminiscence bump phenomena. Both qualitative and quantitative data were collected, forming three data groups (Genre Data, Song Data, and Thematic Analysis). The initial hypothesis was that participants would be more likely to seek nostalgic music when they were sad; instead, the findings suggested that individuals were more likely to listen to nostalgic music genres when they were happy. Nevertheless, the song/artist statistics and thematic analysis showed that there is more nuance to whether people seek nostalgic music in different mood states and the reasons they may have when listening to nostalgic music than the genre descriptive statistics suggest.

1. INTRODUCTION

Nostalgia has a complex history, historically viewed as a psychiatric disorder (Sedikides, Leunissen, & Wildschut, 2022; Batcho, 2013; Dodman, 2018). In the 1800s, nostalgia was viewed as equivalent to depression, to the extent that, during the American Civil War, the Union banned the playing of certain songs to avoid evoking it (Sedikides et al., 2022). Perceptions began to shift in the 20th century with Davis (1979) arguing that it was a complex emotion, separate from homesickness, with both positive and negative connotations. Now, nostalgia is viewed as a nuanced, bittersweet emotion, relating to both positive and negative emotionality (Wildschut et al., 2006), defined by Michels-Ratliff and Ennis (2016, p.8) as "sentimental longing or wistful affection for the past, typically for a period or place with happy personal associations".

Nostalgia is primarily triggered as a response during negative mood states and loneliness (Wildschut et al., 2006; Sedikides et al., 2008; Sedikides et al., 2022) or in duress, such as missing a loved one (Taruffi & Koelsch, 2014). Recordings of adverse weather (such as thunder, wind and rain) were also found to induce nostalgia more so than neutral sounds, with the emotion providing comfort to participants (Van Tilburg et al., 2018). Nostalgia is frequently triggered by music (Zenter et al., 2008), with research suggesting it is triggered more often in musical contexts than non-musical ones (Juslin et al., 2008). The extent to which someone experiences music-evoked nostalgia relies on context-level variables (someone's relationship to a song as well as their experience whilst listening to it) and person-level variables (listener differences, e.g., personality, proneness to nostalgia) (Barrett et al., 2010). Additionally, Taruffi and Koelsch (2014) found that nostalgia was the most frequently reported emotion participants experienced in response to sad music, more so than sadness.

Nostalgia is often linked to autobiographical memory so has therefore been linked to autobiographical salience (Schulkind et al., 1999; Mahon & Roth, 2023). The emotion is an affective process that can accompany autobiographical memories which usually consist of positive associations (Gurr et al., 2014; Janata et al., 2007; Batcho, 2007; Sedikides et al., 2008). Therefore, nostalgia can be triggered by music that is linked to memories, for example, recalling a loved one when listening to self-selected sad music (Van den Tol & Edwards, 2011). Nostalgia has been found to be a frequently experienced emotion during music-evoked autobiographical memories (MEAMs) (Janata et al., 2007), and that nostalgia elicits stronger positive and negative responses if a song has autobiographical salience (Barrett et al., 2010). Nostalgia can therefore be linked to the reminiscence bump phenomenon. The reminiscence bump refers to the observation that the time period in someone's life where they recall autobiographical memories from most strongly is between the ages of 10 to 30 (Rubin et al., 1986). Jakubowski et al. (2020) found that the reminiscence bump, when linked with music and MEAMs, peaked at the age of 14, with evidence of smaller reminiscence bumps preceding this age linking to parent's reminiscence bumps. Schulkind et al. (1999) found that older individuals tend to report stronger emotional responses to music released during their reminiscence bump compared with younger ones.

Nostalgia has been shown to have multiple psychological benefits; it can bolster social bonds, increase positive self-regard, increase positive emotions, self-positivity, social contentedness, and enhance meaning to life (Wildschut et al., 2006; Routledge et al., 2008). Music-evoked nostalgia specifically has been found to induce feelings of youthfulness (Abeyta & Routledge, 2016). Music therapy has utilised nostalgia and music-evoked nostalgia to reduce loneliness and increase social connectedness with older adults (de l'Etoile, 2014) and has been explored as aid for patients with conditions like Alzheimer's disease (Ismail et al., 2018). Music-evoked nostalgia has also been found to serve as a "buffer" against discomforting emotional states (Sedikides et al., 2022). Additionally, sad moods can motivate music listening to retrieve nostalgic memories and enhance positive mood (Barrett et al., 2010).

This study aims to explore whether individuals choose to listen to nostalgic music when they are feeling sad. While Barrett et al. (2010) states that people were more likely to seek nostalgic music when they are sad, this was not the specific focus of their study. Other research suggests that nostalgia merely occurs as a response to listening to sad music, or as a response to distress or bad weather (Taruffi & Koelsch, 2014; Wildschut et al., 2006; Van Tilburg et al., 2018). Therefore, this study will examine whether people are more likely to listen to nostalgic music when they are sad as opposed to happy to explore whether there is a notable difference between the two emotions. Secondarily, this study will consider whether the nostalgic music people listen to aligns with the teenage reminiscence bump, as identified by Jakubowski et al. (2020). Due to the previous research and benefits of nostalgia, I hypothesise that individuals are more likely to listen to nostalgic music when sad to garner its psychological benefits and, due to the link between nostalgia and autobiographical salience, this will align with music that was prominent in or released in participants' teenage years.

2. METHODOLOGY

Design. This study took the form of a questionnaire, using a within-participants and retrospective design. That is, participants had to recollect what music they listen to when feeling sad and happy, and what music they listened to most in three previous life periods, rather than actively experiencing the music and subsequent emotions. The survey was designed to collect both quantitative and qualitative data, consisting of multiple choice and open-text questions. Participants were asked to pick between genres, volunteer songs and artists for three main periods of their lives and the two emotional states of happy and sad, where they were also asked why they listened to such music (see Appendix for the full questionnaire). This was then followed by the Southampton Nostalgia Scale (Sedikides et al., 2008) to determine their disposition to nostalgia. The data collected from this study was translated into descriptive statistics or underwent thematic analysis (Braun & Clarke, 2006).

Participants. Participants (*N = 33*) were recruited through convenience sampling, word-of-mouth distribution, and social media. 6 participants were removed from the dataset as they did not complete the survey making the final total *N* = 27. The sample consisted of 7 men, 18 women, 1 nonbinary person, and 1 person who preferred not to state their gender. Their ages ranged from 20 to 53 (*M = 29.6, SD = 12.4*). 18 participants were aged 20-29, 3 were 30-39, 1 was between 40-49, and 5 were between 50-59. 67% of the participants were in their 20s. Age was an important factor to collect as it allowed for the calculation of the participant's age in relation to the release dates of songs they had reported.

Materials and Procedure. The study was an online survey, designed to take 20 minutes, that was hosted on Qualtrics. Participants were informed of the purpose of the study but were not told that the survey concerned nostalgia, labelled instead as a Music and Emotion survey, in order not to bias responses through priming. Participants were informed how their data would be handled and asked to confirm that they were 18 or older, to ensure informed consent was obtained in line with ethical guidelines. Participants were then presented with the questionnaire, split into 6 sections. The first section asked demographic questions of age and gender. The next four sections made up the main portion of the questionnaire, asking participants first about the genres that were their favourites during three periods of their life: pre-12, 12-18 (teenage years) and their current listening habits. The second section asked for examples of 3-5 songs (including artist names) they listened to frequently from these three time periods. The third and fourth sections asked what genres and songs participants listened to when feeling happy and sad, respectively, and why they thought they did so. These questions aimed to assess autobiographical nostalgia on two levels – through genre and song. Additionally, by splitting childhood into two sections, it would be clearer if there was a specific correlation with the reminiscence bump phenomenon, where MEAMs are strongest around the age of 14 (Jakubowski et al., 2020). Asking for song examples was important to account for the fact that, in some instances, the age at which a song is important to someone does not necessarily correlate to its release date. These four sections were presented to participants in a random order to limit the impact of order effects on the answers that were provided. Finally, as feeling nostalgia is dependent on a participant's level of nostalgia proneness (Routledge et al., 2008), the final section used the Southampton Nostalgia Scale (Sedikides

et al., 2008) to measure participants' self-reported dispositional nostalgia. This self-report scale was presented last to avoid priming participants in their previous responses. No musical stimuli were provided during this study.

The results from the questionnaire were treated in various ways. The data relating to genre was made into descriptive statistics and then compared to see whether there was correlation between the genres stated in questions 9 and 12 (genres listened to when happy and sad) and those from the three time periods. The song/artist data was also made into descriptive statistics to see whether the same songs or artists were stated in the different sections. Additionally, release date was considered, where if the release date of a song came from childhood, teenage years, or before their current decade of life, it was deemed as being potentially nostalgic. Finally, the qualitative data from the responses of why participants listened to their chosen music when happy or sad was thematically coded using NVivo and sorted into overarching themes.

3. RESULTS

The results of this study were dealt with in multiple ways due to the three main data groups that emerged. These data groups were *Genre Data, Song Data* and *Thematic Analysis*.

When comparing the genre data, descriptive statistics were used to identify correlations between the genres from the three life periods and the genres they reported listening to when feeling sad and happy. It was identified that participants listened to a nostalgic music genre if the genre was the same as either or both of their Pre-12 genre and Teenage (12-18) genre. Utilising the Southampton Nostalgia Scale, the participants were separated into three groups: those with high disposition to nostalgia; those with middle-levels of disposition; and those with low disposition to nostalgia. 1 participant ranked in the low category, 14 ranked as middle, and 12 ranked as high. When considering nostalgia scores, due to only having 1 participant ranked as low disposition, no general conclusions can be drawn from their data.

Table 1. Participants' Dispositional Nostalgia Levels

	High Disposition to Nostalgia	Middle Disposition to Nostalgia	Low Disposition to Nostalgia
Number of Participants	12	14	1

Genre Data

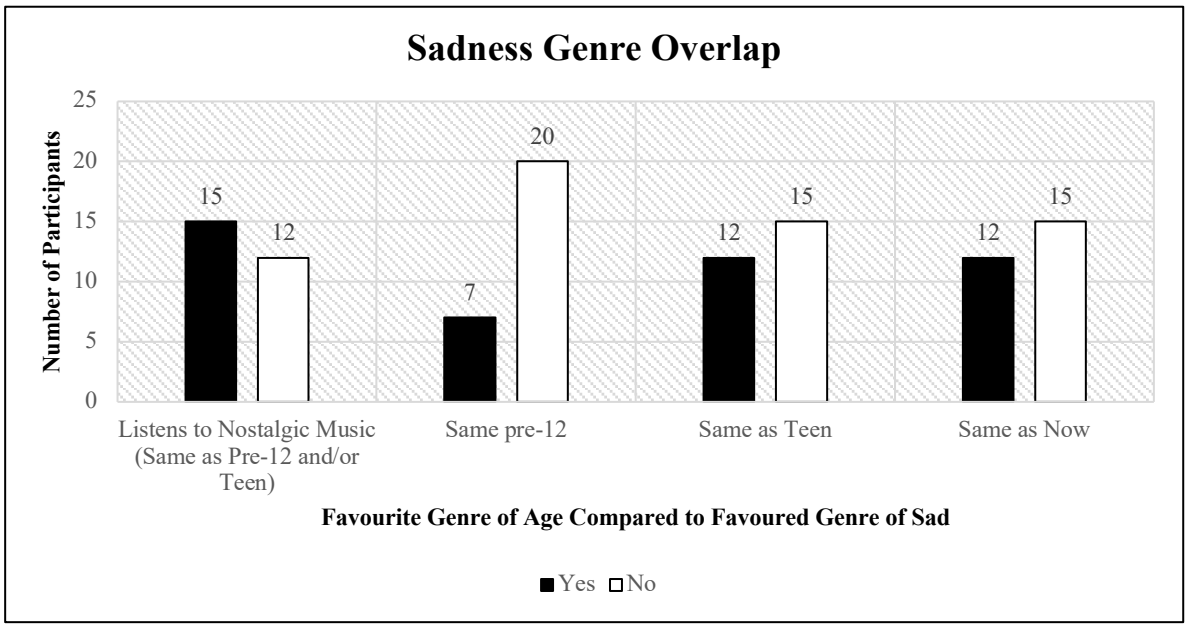

Figure 1. Overall results of the sadness genre's relationship with the favoured genre of life periods.

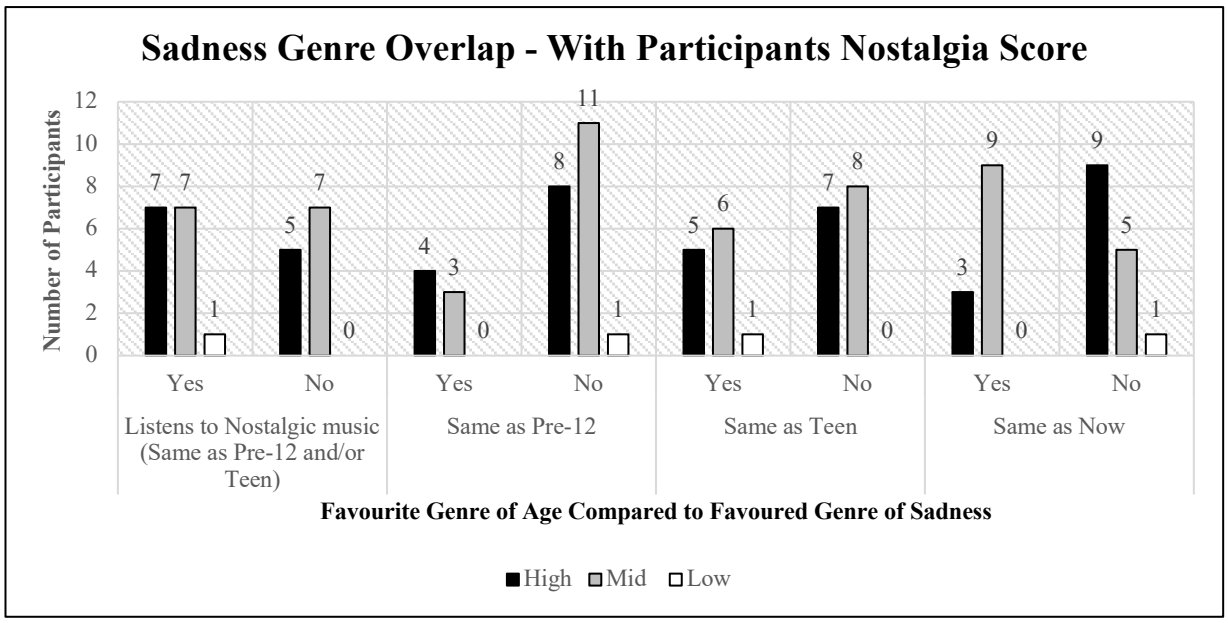

Figure 2. Breaks down Figure 1 into whether the participants had high, middle or low disposition to nostalgia on the Southampton Nostalgia Scale.

Figures 1 and 2 show the correlation of the genre participants listed as their favourites from each time period and the genre they stated they listened to when they feel sad. Figure 1 shows that 55.6% of participants listened to a nostalgic genre when sad (i.e. Pre-12 and/or 12-18). However, when broken down in Figure 2, there is not a clear majority between whether the same genre was listened to, 7 high and middle-disposition participants for yes and then 5 and 7 who did not listen to the same genre. Overall, there was not a significant difference between those with middle and high disposition to nostalgia, except with the genre they listened to when sad being the same as their current one, where those with middle-disposition to nostalgia were more likely to listen to their current favoured genre when sad in contrast to those with high disposition who were less likely to. 33.3% of participants' genre they listened to when sad was not the same as any of the previous genres they had reported.

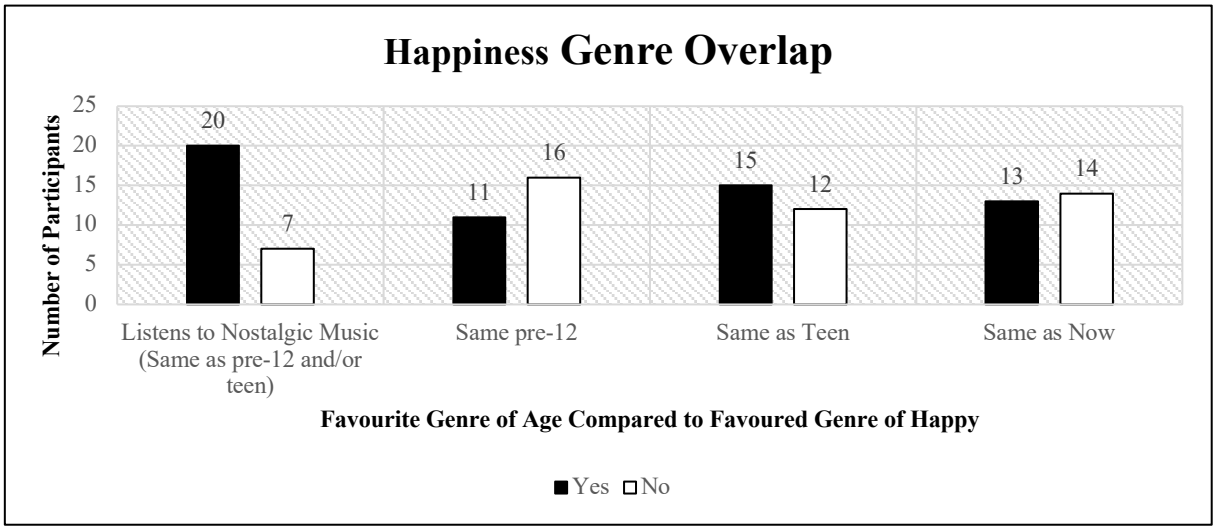

Figure 3. Overall results of the happiness genre's relationship with the favoured genre of life periods.

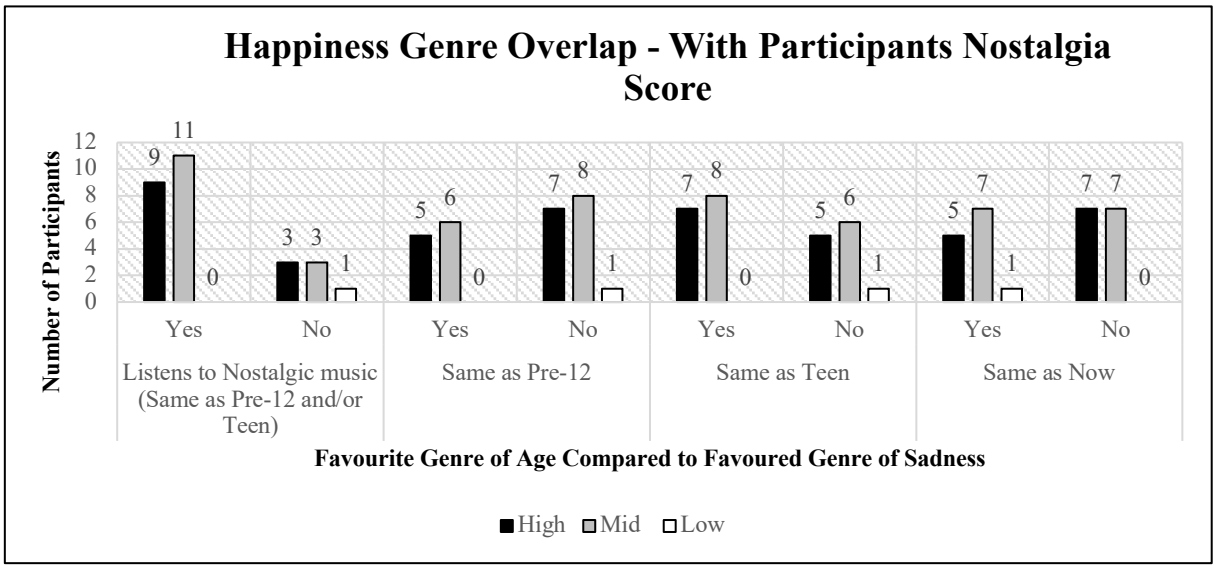

Figure 4. Breaks down Figure 3 into whether the participants ranked as high, middle or low disposition to nostalgia on the Southampton Nostalgia Scale.

Figure 3 and 4 show the correlation of the genre participants listed as their favourites from each time period and the genre they stated they listened to when feeling happy. Figure 3 shows that 74.1% of participants listened to a nostalgic genre (i.e. Pre-12 and/or 12-18) when happy, with a slight majority of participants listening to the same genre as their Teenage years. Overall, there was no significant difference between those with middle and high disposition to nostalgia. 18.5% of participants' genre they listened to when happy was not the same as any that they had previously reported

Song Data. Descriptive statistics were used for the song data to see if there were correlations between songs listened to when feeling sad or happy with the three time periods.

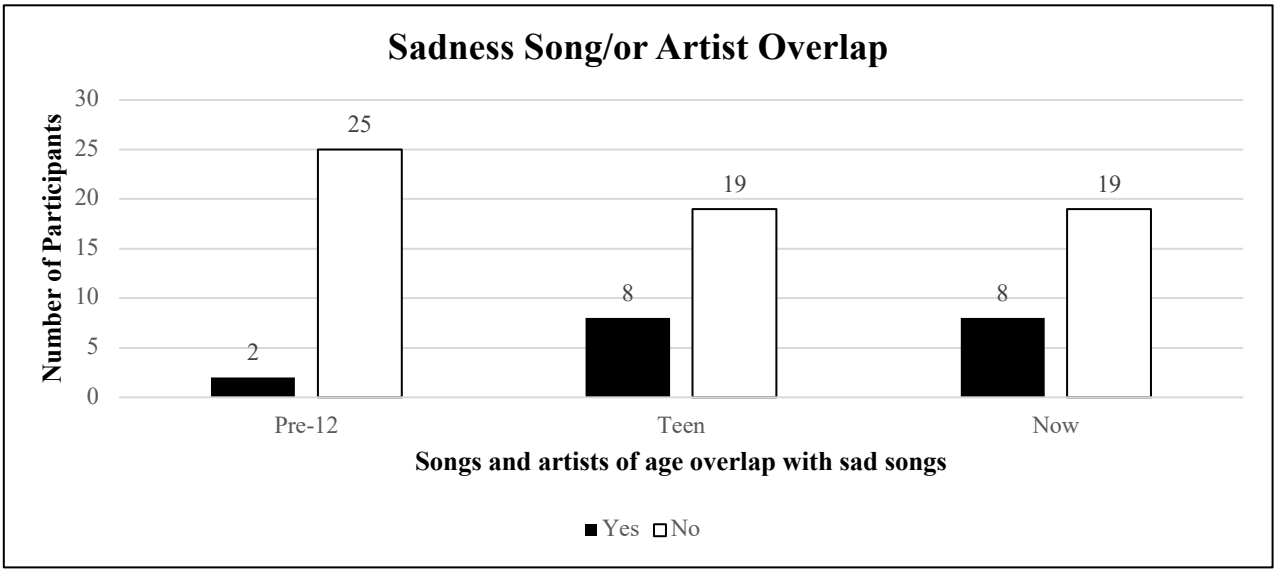

Figure 5. Overlap of songs and/or artists participants listened to when sad with the songs and artists listed from the three phases of life.

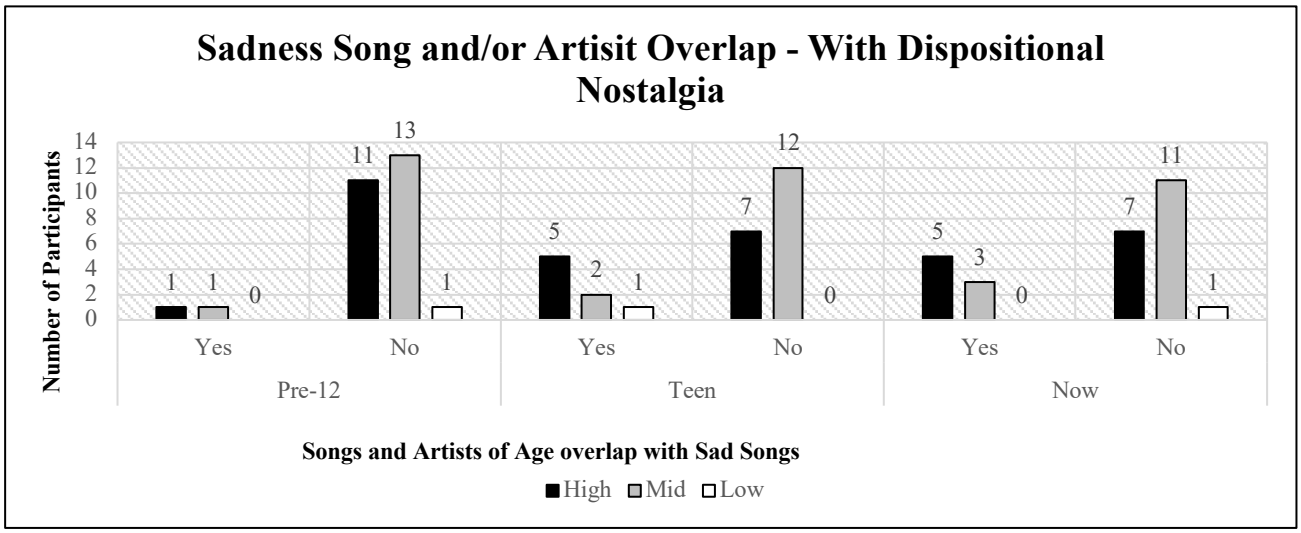

Figure 6. Breaks down Figure 5 into whether participants ranked as high, middle or low disposition to nostalgia on the Southampton Nostalgia Scale.

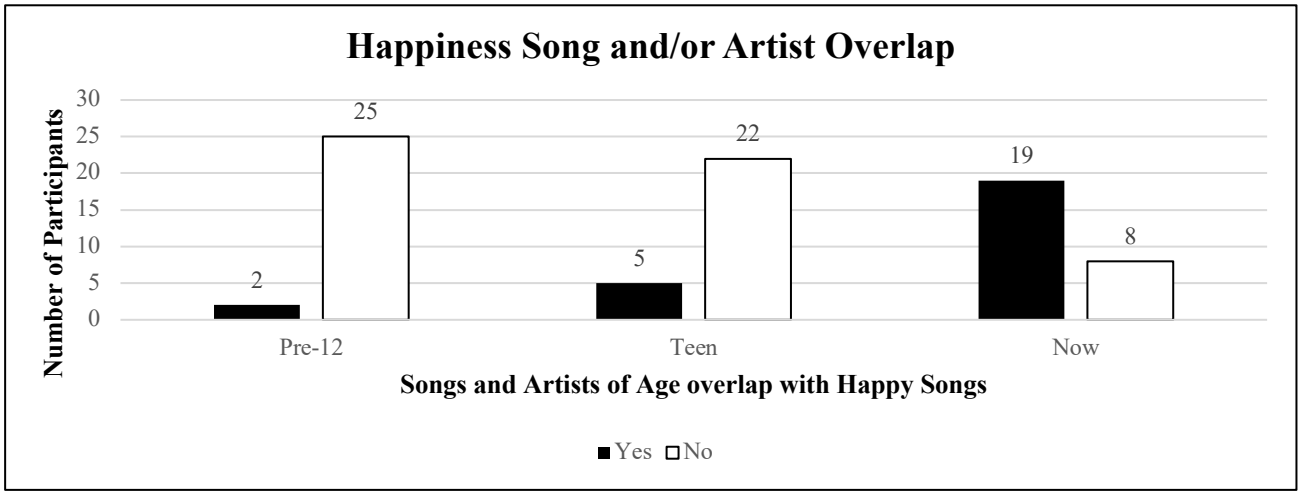

Figure 7. Overlap of songs and/or artists participants listened to when happy with the songs and artists listed from the three phases of life.

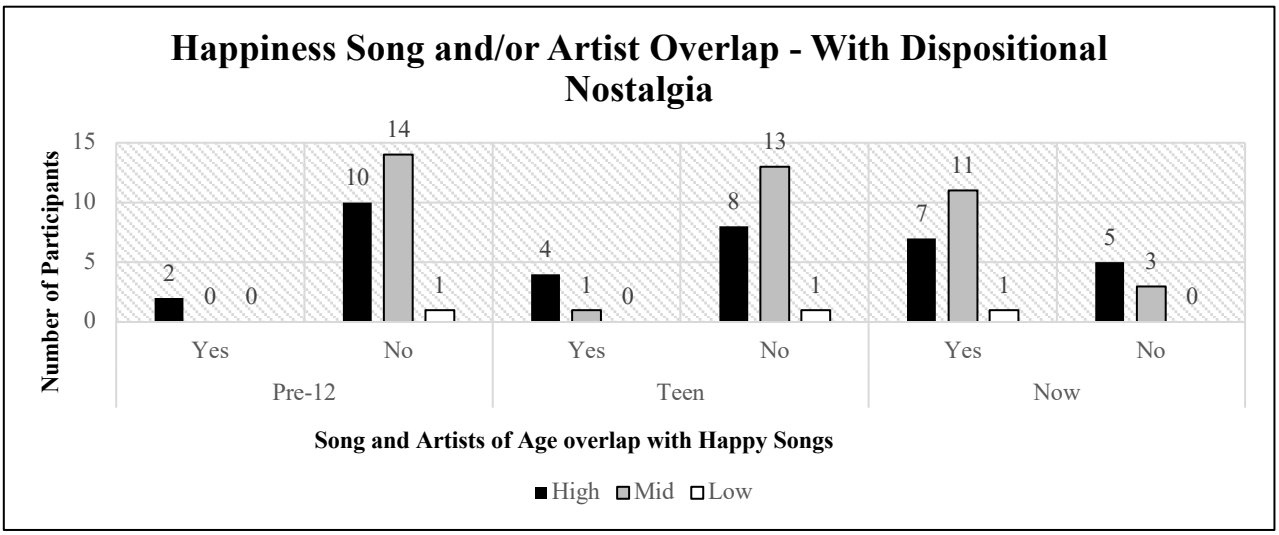

Figure 8. Breaks down Figure 7 into whether participants ranked as high, middle or low disposition to nostalgia on the Southampton Nostalgia Scale.

Figures 5 and 6 show no major correlation between the songs and/or artists participants listened to when feeling sad with songs and/or artists from the three periods of their lives. When considering Figure 7, the only category that had a significant overlap of songs and/or artists was from current listening habits and those listened to when happy, with 19 participants having overlapping songs/artists out of the total of 27. When breaking this statistic down further in Figure 8, it can be observed that those with middle-disposition to nostalgia are more likely to listen to the same songs/artists when happy as their current listening habits (78.6%) whereas they were less likely to seek music from their teenage years (92.9% of middle-disposition participants not doing so). This does not mirror the same majority towards listening to teenage genres that Figures 3 and 4 show.

The age of release of the songs participants listed were also considered to see whether this showed a significant trend towards nostalgic listening. Music was considered potentially being nostalgic if it was released before their current decade of life (e.g. before the age they turned 20 if they were 27 or before the age of 50 if they were 53) When listing songs they listened to when feeling happy and sad, 88.9% of participants reported songs that were released before their current decade of life, so there was no significant difference between the two. However. 70.4% of the participants who listened to music released during the past periods of their lives when feeling sad reported music released during their teenage years, compared to 55.6% for the songs they listened to when happy. These statistics as a whole did not include songs released before the participants' births. When considering these songs, 14.8% of participants listened to music released before their birth when feeling sad compared to 37% when feeling happy.

Thematic analysis.

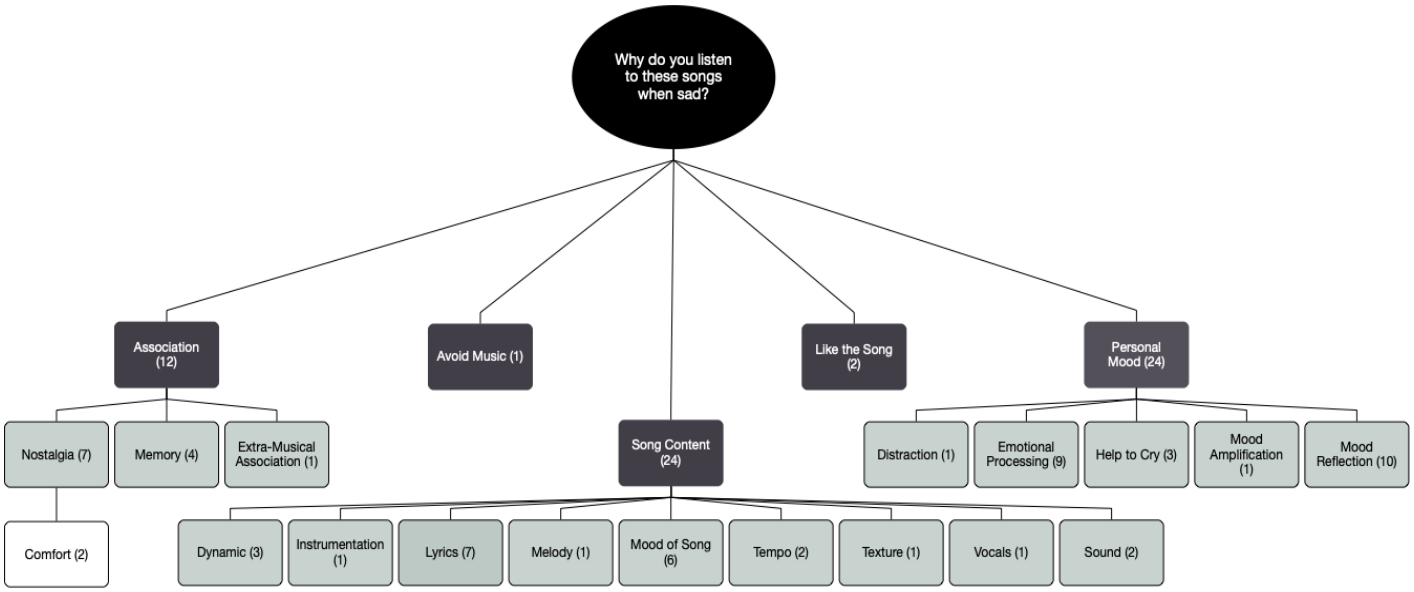

Figure 9. Diagram of themes and codes of the questionnaire response to the question "*Why do you listen to these songs when sad*?"

Five main themes emerged from the questions asking why participants listened to the music they listed when sad: Association, Avoid Music, Song Content, Liking the Song, and Personal Mood. The Avoid Music theme originated from one participant who said that they actively avoided music when in a negative mood state. Association is the theme which concerns nostalgia, with 12 codes under the theme, with explicit mentions of Nostalgia, Comfort, Memory, and Extra-Musical Association (such as songs linked to media like movies) included within this theme. Song Content and Personal Mood were the biggest themes with 24 codes each.

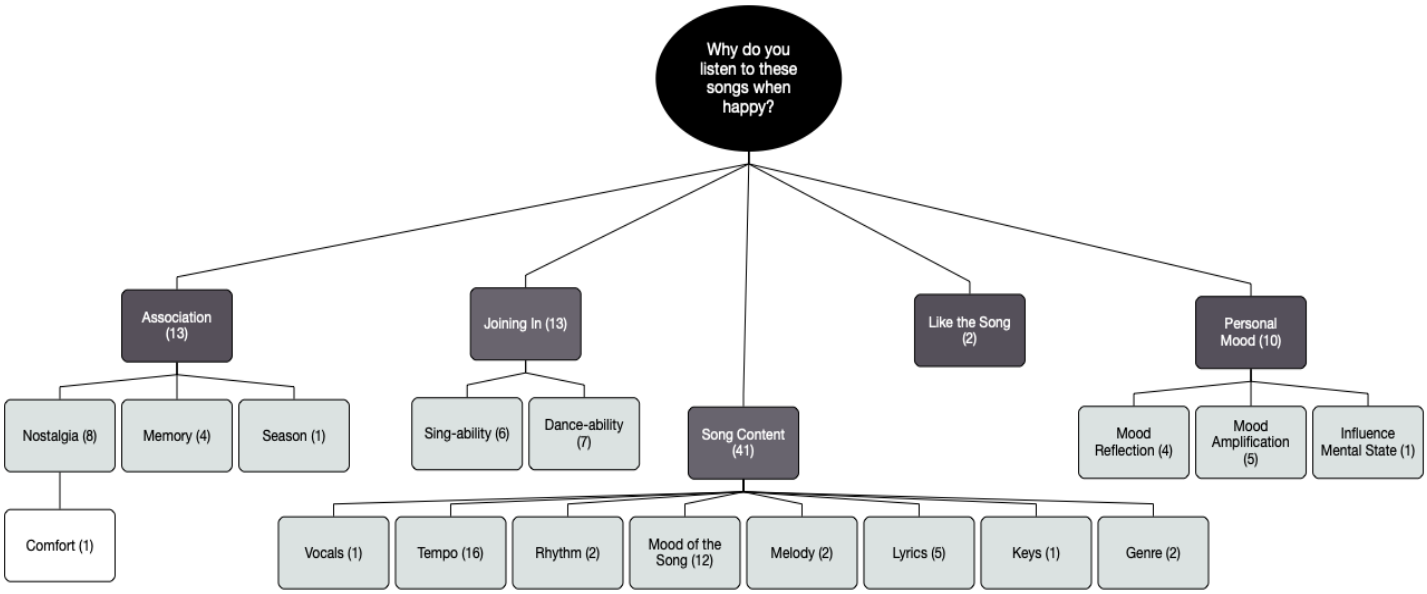

Figure 10. Diagram of themes and codes of the questionnaire response to the question "*Why do you listen to these songs when happy?*"

The 5 themes that emerged from the responses to why participants sought music when happy were: Association, Joining In, Song Content, Liking the Song, and Personal Mood. Association encompassed the same codes of Nostalgia and Memory as the sadness responses did, however, instead of Extra-Musical Association, Season was coded as one participant stated that listening to their chosen music when happy reminded them of warmer seasons. Song Content was the biggest theme overall, with 41 codes. Song tempo appeared to be significant as the word "upbeat" was used 22 times by participants as a reason for listening to the music.

4. DISCUSSION

Overall, the results of this study do not support the initial hypothesis that people would be more likely to seek out nostalgic music when they are sad. This challenges the previous research's understanding of nostalgic music's appeal when in negative mood states. Although sounds of adverse weather, such as wind, rain and thunder, and negative mood can make people seek nostalgia to comfort themselves (Van Tilburg et al., 2018; Wildschut et al., 2006; Sedikides et al., 2008; Sedikides et al., 2022), and though individuals feel nostalgia as a response to sad music (Taruffi& Koelsch, 2014), this research suggests that when individuals experience sadness, they do not seem to seek nostalgic music. Instead, considering the descriptive statistics of the genre data, the opposite case emerged where participants appeared more likely to seek nostalgic music when they were happy. Within this, there was a slight correlation between genres reported when they were happy correlating with participants' genres reported during their teenage years, aligning with the assumption that the nostalgic music individuals sought would coincide with their reminiscence bumps. There were no significant differences between those with middle or high dispositions to nostalgia apart from in one category, where those with high disposition were less likely to listen to their current favoured genre of music when sad.

Whilst the descriptive statistics of the song data do not align in favour of the hypothesis, when considered with the responses to questions 11 ("*Why do you listen to these songs when happy?*") and 14 ("*Why do you listen to these songs when sad?*"), and their thematic analysis, it suggests that nuance is needed in discussion of these results. One participant specifically reported two songs by bands they mentioned in both pre-18 categories and when they were sad, but did not identify these artists or songs in their current listening category. This aligns with the primary hypothesis and correlates with reminiscence bump research (Jakubowski et al., 2020); however, the participant's genre they reported listening to when sad was not the same as any of the genres the reported in the three time periods, therefore this data did not align in a way that supported the hypothesis and was not included in the genre statistics. This discrepancy points out a potential issue of solely considering the descriptive statistics. Another participant listed the genre they listen to now as being Soundtracks/Theme songs and, although this was the same as the genres and songs they reported listening to when sad, the songs they reported currently listening to did not fall into this genre category. Interestingly, the songs they listened to when sad were from films released

when they were between the ages of 2 and 5. Potentially suggesting they may have grown up watching these films and may return to them in times of sadness.

When considering the song data, only asking participants for 3-5 examples of songs in each category limited the inferences that could be made and means that a limited scope of the participants' listening habits is identified. When release-date data is considered, participants were more likely to listen to music released during their reminiscence bumps when feeling sad, which supports the primary hypothesis. However, the primary hypothesis was not supported when only considering the self-reported songs from each time period and comparing them with their happy and sad songs (the frequency that participants listed the same songs and/or artists) which could have been due to the limitation of only being able to list 3-5 songs for each question category. The percentage of participants that listened to music released before their birth in any of the question categories (time period or mood) may align with the finding that individuals have reminiscence bumps correlating to their parents' ones (Jakubowski et al., 2020). Whilst the release-date statistics are in favour of the primary hypothesis, many of the songs participants listened to when feeling sad being released in a nostalgic time period, additional information for listening habits may be required to understand whether music is truly nostalgic or not. A handful of participants listed *Murder on the Dancefloor* by Sophie Ellis-Bextor, released in 2001, as a song they currently listen to. Whilst this may point to being a nostalgic song they heard in childhood/teenage years, and this may be the case, it is worth noting that the song regained popularity through its prominent inclusion in the movie Saltburn, released 2023. Therefore, it is important to note a song's reoccurrence in pop culture to discern whether a song may actually be nostalgic for a participant.

The data showed further nuance than the statistics allowed for as some participants showed that they would listen to nostalgic music when feeling sad through their responses to the qualitative questions, whereas the genre or song descriptive statistics did not allow for the same inferences. Association as a theme, linked to nostalgia, memory and extra-music content, made up 20.04% coverage in the text of the responses when discussing the reason why participants listened to music when sad, in comparison with the 12.33% of coverage for why they listened to music when happy. Weather was a factor in listening to happy music for one participant, who said it reminded them of summer, which, although does not link to stress in the same manner, could link to Van Tilburg et al.'s (2018) findings about how adverse weather sounds induce nostalgia, potentially suggesting that songs associated with warmer seasons may have the same comforting effect. Mood reflection was a code for both categories, with the happy category leaning more towards reflection and amplification, and sadness towards reflection and emotional processing. This indicates that musical choice could be dependent on their self-regulatory goals, identified similarly by Edwards and Van den Tol (2014). This could indicate that if participants were not aiming to self-soothe by listening to music, instead 'leaning into sadness' as some participants phrased it, it may explain why they would not listen to nostalgic music, as they would not be aiming to garner the benefits of nostalgia (Wildschut et al., 2006; Routledge et al., 2008; Sedikides et al., 2022).

Limitations. One limitation of this study is the small sample size, especially the disparity between age groups and dispositions to nostalgia, not allowing for generalisations to be made from this data. In future, allowing more time for data collection and distributing the studies in more varied ways, such as through various social media platforms, traditional media advertisements (such as newspapers or leafletting) and even encouraging snowball sampling (encouraging existing participants to share the study), may enable more respondents of differing demographics to complete the study.

Additionally, taking an approach by dealing with age groups separately would allow for more comparison between younger and older people, as older individuals have been found to have stronger emotional reactions to music from their past (Schulkind et al., 1999) and have more vivid and positive MEAMs than younger individuals (Jakubowski & Ghosh, 2021). This study did not show a major disparity between the two age groups, but most participants were in their 20s and the study only explicitly asked about the time period before they were 12, their teenage years, and the current day. So, potentially expanding to include questions about participants' 20s, 30s and other decades of life may give more conclusive results that align with the hypothesis. It may help determine whether genre and song choice when in bouts of happiness or sadness align with music that can be deemed as nostalgic, and potentially highlight further whether they are more likely to choose music from the reminiscence bump to fall back on.

Allowing participants to rank genres instead of just picking one would potentially allow for more insight, especially with regards to the percentage of participants whose emotion genres did not align with any of the three life periods. Additionally, the study did not specify types of songs for participants to list, and only asked for 3-5 songs to that they frequently listened to for each life period, meaning that the song data may not be not representative of the music they listened to during those periods. This limitation has helped to identify the need

for nuance in similar studies as it disputed the results of the genre data, so a focus on just discussing song examples could align more with the initial hypothesis. Therefore, allowing participants to list more songs examples and by asking more directed questions (e.g. songs you listened to when sad as a teenager, sad songs you listen to to self-soothe etc) may give different results that could align with the understanding given by previous research.

Finally, if this study were to be recreated or carried out again, a different format may allow for better results. For example, a naturalistic approach, such as utilising a listening diary may yield more insightful results similarly to Jakubowski and Ghosh (2021). It may allow participants to accurately, and not retrospectively, self-report what music they listen to when they were actively sad, why they did so, and what their aim was (e.g., indulging in the emotion, 'leaning into sadness', or to self-soothe). An interview approach may be similarly appropriate to allow for clarity about the reasoning behind listening to songs when sad or happy. Specifically asking which music individuals listen to in order to manage and improve their low mood may yield results that align with the original hypothesis and previous research.

This study found that, unlike previous research's indication, participants were more likely to listen to nostalgic music genres when feeling happy as opposed to when feeling sad. Furthermore, there was a slight majority preference found where participants would listen to the same genre as they did in their teenage years, aligning with Jakubowski et al.'s (2020) findings of the reminiscence bump. However, the song data and the thematic analysis of questions 11 and 14 indicate that there is more nuance within this topic that the genre data may not allude to. A wider participant pool and either an expansion of the existing questions or a change in qualitative data collection methodology may give more insight into what people listen to in different emotional states and the reason behind it, nostalgic or otherwise.

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APPENDIX

Questionnaire Questions
Demographics

1. What is your current age?
2. What gender do you consider yourself?

Genres and Age

3. What would you say your favourite genre of music was before the age of 12?
4. What would you say your favourite genre of music was from the ages of 12 to 18?
5. What would you say your favourite genre of music currently is?

Songs and Age

6. Please list 3-5 songs and their artists that you listened to frequently before the age of 12 (You are welcome to list previous examples again if relevant)
7. Please list 3-5 songs and their artists that you listened to frequently between the ages of 12-18 (You are welcome to list previous examples again if relevant)
8. Please list 3-5 songs and their artists that you currently listen to frequently (You are welcome to list previous examples again if relevant)

Emotions – Happy

9. What genre of music do you tend to listen to when happy?
10. Please list 3-5 songs and their artists that you tend to listen to when happy (You are welcome to list previous examples again if relevant) (These do not have to be linked to your chosen genre)
11. Why do you listen to these songs when happy?

Emotions – Sad

12. What genre of music do you tend to listen to when sad?
13. Please list 3-5 songs and their artists that you tend to listen to when sad (You are welcome to list previous examples again if relevant) (These do not have to be linked to your chosen genre)
14. Why do you listen to these songs when sad?

Southampton Nostalgia Scale

15. How valuable is nostalgia for you?
16. How important is it for you to bring to mind nostalgic experiences?
17. How significant is it for you to feel nostalgic?
18. How prone are you to feeling nostalgic?
19. How often do you experience nostalgia?
20. Generally speaking, how often do you bring to mind nostalgia experiences?
21. Specifically, how often do you bring to mind nostalgic experiences?