

**Relationship Status, Feeling Sad, Openness to New Experiences and Gender Differences in  
Preference for Listening to Sad Music among Late Adolescents and Emerging Adults**

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June 2022

Word count: 4752

### Abstract

Listening to sad music may evoke sadness in certain people, which is typically assumed to be undesirable. The aim of this study was to investigate if: (a) being single contributes to listening to sad music, (b) gender and openness to new experiences moderate, and (c) feeling sad mediates the relationship between being single and listening to sad music. The study had a cross-sectional design, with N = 238. The participants were late adolescents and emerging adults (18-29 years old). The analyses only showed a significant result for the main effect of openness on listening to sad music. Therefore, according to the results in this study, being single is not related to late adolescents and emerging adults listening to sad music more often. There is also no difference between males and females in their incline to listen to sad music. No interaction effects were found for gender and openness. Feeling sad is also not found to be a mediator. A bigger sample, with a focus on adolescents, could reveal different outcomes in future research. Because, some marginal significant positive effects were found with regard to the potential moderating effects of gender and the mediating effect of feeling sad.

*Keywords:* romantic relationship, sad music preference, openness to new experiences, feeling sad, gender

Luisteren naar droevige muziek kan verdriet oproepen bij sommige mensen, waarvan doorgaans wordt aangenomen dat het niet wenselijk is. Deze studie heeft onderzocht of: (a) het ontbreken van een romantische relatie bijdraagt aan het luisteren naar verdrietige muziek, (b) geslacht en openstaan voor nieuwe ervaringen deze relatie modereren en (c) zich verdrietig voelen een mediator is. De studie is cross-sectioneel met N= 283. De participanten waren late adolescenten en opkomende volwassenen (18-29 jaar oud). De analyses toonden alleen een significant resultaat voor het hoofdeffect openstaan voor nieuwe ervaringen op het luisteren naar verdrietige muziek. Dus volgens de resultaten in deze studie is het ontbreken van een romantische relatie niet gerelateerd aan het luisteren naar verdrietige

muziek voor late adolescenten en opkomende volwassenen. Er is ook geen verschil tussen mannen en vrouwen in hun neiging om naar verdrietige muziek te luisteren. Er werden geen interactie-effecten gevonden voor geslacht en openstaan voor nieuwe ervaringen. Ook is verdrietig zijn geen mediator. Een grotere steekproef met de focus op adolescenten zou in toekomstig onderzoek andere uitkomsten kunnen onthullen, omdat er enkele marginale significante positieve effecten zijn gevonden met betrekking tot het mogelijke modererende effect van geslacht en mediërende effect van verdrietig zijn.

*Sleutelwoorden:* romantische relatie, verdrietige muziek voorkeur, openstaan voor nieuwe ervaringen, verdrietig voelen, geslacht

## Introduction

Sad songs are popular. The streaming service Spotify features playlists such as ‘life sucks’; ‘broken heart’; ‘alone again’ etc. Each of these lists have circa three million likes. Apparently people like listening to sad songs, even though these songs cause them to experience sadness as most salient emotion (Ladinig & Schellenberg, 2012; Vuoskoski et al., 2011). The question of why people listen to sad music has been studied multiple times (Sizer, 2019; Taruffi & Koelsch, 2014), as it regards a paradox. Experiencing sadness is typically assumed to be undesirable, and for that reason usually avoided (Taruffi & Koelsch, 2014). However, there are individual factors that contribute to the reason why certain people are more prone to listen to sad music (Hogue et al., 2015). The aim of this study is to find out whether the lack of a romantic relationship is one of these factors. In addition, the moderating effects: ‘openness to new experiences’ and ‘gender’ will be investigated. As well as the mediating effect: ‘feeling sad’. This is interesting, because all of these factors have never been researched in one study before.

## Theoretical Substantiation

The question why people listen to and appreciate sad music has been addressed theoretically. An approach used in this type of research is the of ‘uses and gratifications’ (Lonsdale & North, 2011). This theory investigates how to satisfy a person’s individual needs by using the mass media. The theory is seen as a major breakthrough in the field of studies about mass communication (Šarović, 2016). The basic components of the approach are that the media (contents) are selected rationally, and driven by aims and pleasures of the active recipients. The audience of media consumers is aware of their media-related needs and is capable of expressing those in terms of motives. In line with the uses and gratifications approach, Lonsdale and North (2011) propose that listening to music is an effective means for persons to satisfy their individual needs. Music is relevant for: positive and negative mood management; diversion; interpersonal relationships; personal identity and surveillance. The results in

this study, as one of the many studies about music as a means of communication, show that media attract attention because they fulfill important needs in people's life (Šarović, 2016).

In line with the uses and gratifications theory, other researchers have proposed that adolescents use mood-congruent music for negative mood management (Saarikallio & Erkkilä, 2007; ter Bogt et al., 2019). When feeling sad, the attraction to sad music increases (Ladinig & Schellenberg, 2012). Listening to mood-congruent music helps people to become immersed with their feelings (Saarikallio & Erkkilä, 2007). Immersion with negative emotions helps to intensify these emotions and experience them more fully (Papinczak et al., 2015). Through the intensification and experiences the listeners express their inner states (Saarikallio & Erkkilä, 2007). In this way the music reflects the emotions of sad listeners. After expressing these inner states, listeners can move on from their negative mood (Papinczak et al., 2015). Besides working as a reflection, music may also help the listeners with releasing their negative emotions and the music may be consoling (Saarikallio & Erkkilä, 2007; ter Bogt et al., 2016; Tsai et al., 2014). In sum, research in line with the uses and gratifications approach hypothesize that: people use music, even sad music, to gratify their need to feel understood and not alone with their negative emotions.

### **Review of Empirical Studies about Mood-congruency; Romantic Relationships; Openness to new Experiences and Gender**

The idea of listening to mood-congruent music is also found in a study by Yoon et al. (2020). In their study they replicated earlier findings that in comparison to healthy people, depressed persons are more likely to choose sad music to listen to. In line with this, Taruffi and Koelsch (2014) found that sad music was appreciated more when the participants were in a negative emotional state, than when they were feeling happy. Participants listened more frequently to sad music when they experienced emotional distress or when they felt lonely.

Loneliness levels of Turkish students who are not in a romantic relationship are significantly higher than those of their fellow students who are in a romantic relationship (Özdemir & Tuncay, 2008). This is in line with earlier research, which showed that an important perceived causal factor for feelings of loneliness in an individual is the lack of romantic partners or intimate relationships (Seepersad et al., 2008). A hypothesis that could be drawn from this, is that individuals lacking a romantic relationship are more prone to listen to sad music, because of the feelings of perceived loneliness. This has been investigated with specific music celebrating or lamenting love by Knobloch and Zillman (2003). The participants were divided in three groups: steadies; daters and roamers. The romantic satisfaction level for each of these three groups was investigated. It turned out that roamers, people who were longing for new romantic relationships, were significantly less happy than the other two groups. The results showed that unhappy roamers had a preference for love-lamenting songs over music celebrating love.

Another factor that may explain why some people do like to listen to sad music, while others do not, is the listeners' personality (Ladinig & Schellenberg, 2012). The Five Factor Model (FFM) is often used for investigating personality. FFM measures personality on five dimensions: openness to experience; conscientiousness; extraversion; agreeableness and neuroticism. Openness to experience correlates positively with liking sad music (Ladinig & Schellenberg, 2012; Vuoskoski & Eerola, 2011). Personality and music preferences have been investigated in multiple studies, but there are relatively few studies that investigate how personality contributes to the tendency of listening to sad music (Dunn et al., 2011; Taruffi & Koelsch, 2014; Vella & Mills, 2016).

A recent study done in China indicated that gender can also play a role in having a preference for sad music (Xu et al., 2021). The result of the study was that men have a greater preference for sad music in comparison to women. This is consistent with an earlier study (Hogue et al., 2015). The males in this study had a higher preference for music that induced sadness than females did. However in the Indian context women enjoyed listening to songs emphasizing various emotions more than boys

(Upadhyay et al., 2017). This makes gender an interesting factor to investigate further in the current study.

### **The Gap**

Earlier research indicated that people are more prone to listen to sad music when they are feeling sad and lonely. It is also found that people lacking a romantic relationship feel more lonely and that they have a preference for love-lamenting songs. However, whether people lacking a romantic relationship also prefer general sad songs or only sad songs about love has not yet been investigated. The factors: feeling sad; openness to new experiences and gender are also correlated with listening to sad music in earlier studies. However, these factors have never before been put together in a model with the variable romantic relationship. Because of this, the interactions and mechanisms between these factors have also never been investigated before. This will be done in the current study.

### **The Current Study**

**MRQ:** *Are late adolescents and emerging adults who are not in a romantic relationship more prone to listen to sad music?*

**Hypothesis 1:** Late adolescents and emerging adults who are not in a romantic relationship are more prone to listen to sad music. This is expected because people lacking a romantic relationship are more prone to listen to love lamenting songs and will therefore probably also be more prone to sad music in general.

**SRQ 1:** *Are males more prone to listen to sad music?*

**SRQ 2:** *Are adolescents and emerging adults who are more open to new experiences more prone to listen to sad music?*

**SRQ 3:** *Does openness to new experiences moderate the link between relationship status and listening to sad music?*

**SRQ 4:** *Does gender moderate the link between relationship status and listening to sad music?*

As relationship status (negative); openness to new experiences; and gender (male) all indicate listening to sad music, this research explores the interaction between these variables.

**Hypothesis 2:** Males are more prone to listen to sad music.

**Hypothesis 3:** Late adolescents and emerging adults open to new experiences are more prone to listen to sad music.

**Hypothesis 4:** Late adolescents and emerging adults without a relationship, but open to new experiences are more prone to listen to sad music.

**Hypothesis 5:** Males without a relationship are more prone to listen to sad music.

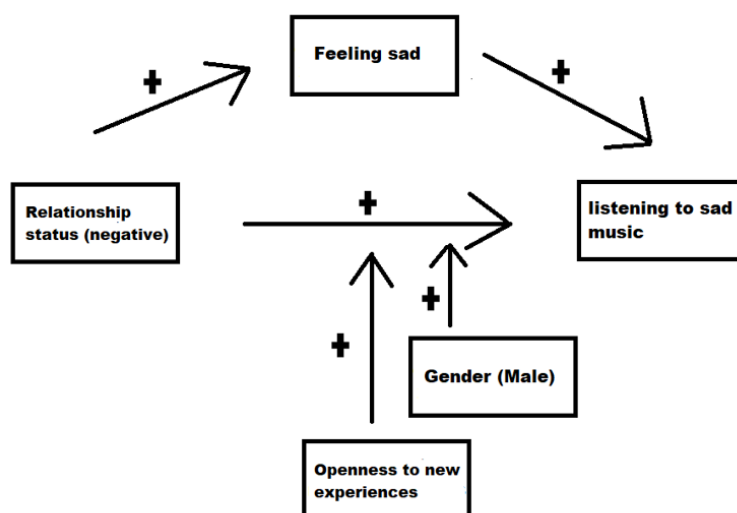
**SRQ 5:** *Does feeling sad mediate the link between relationship status and listening to sad music?* As relationship status (negative) is associated with feeling sad, whilst sad feelings are associated with listening to sad music, this research aims to explain potential mediating through feeling sad in de link between relationship status and listening to sad.

**Hypothesis 6:** feeling sad explains the link between relationship status (negative) and listening to sad music.

The conceptual model that followed from this can be seen in Figure 1.

**Figure 1**

*Conceptual Model*





## **Methods**

### **Design**

The research involved existing data from a study by Hanser et al. (2016). This is a cross-sectional, between subject design.

### **Sample**

From a total of 899 participants, 661 were excluded due to two reasons. The first was age. This research is about late adolescents and emerging adults, so participants above the age limit of 29 were removed (n=587). Second, participants completing less than 50% of the questions (n=74) were also excluded. The dataset was then checked for unreliable answers and systematic response tendencies, but none were detected. Also a very limited number of extreme scores were detected. Therefore no additional participants were removed from analyses. This resulted in 238 participants, male (n=134, 56,3%) and female (n=104, 43,7%), with mean age 22.38 (SD 3,276).

### **Procedure**

The research by Hanser et al. (2016) was announced on the Dutch Radio (Radio 2 and Radio 4) and in news articles. The researchers asked for volunteers for a study about music and solace. First, an information and consent form was presented. Consent was given by all participants included in the analyses. Second, participants filled in the questionnaire which took approximately 20 minutes. The survey consisted of questions with the following subjects: mood-managing behaviors, situations requiring comfort, song aspects, listening behavior, the Geneva Emotion and Music Scale (GEMS), emotional qualities, and the solace-scale from the Music in Mood Regulation questionnaire (MMR). For this study 10 of the items by Hanser et al. (2016) were used.

### **Measuring Instruments**

#### ***Relationship Status***

The participants were asked what their current relationship status was on a 3 point scale. 1 being single, 2 being in a relationship but not living together, and 3 being in a relationship and also living together. However, these three values are recoded into two values. Value 1 stayed the same: being single (n=153). But value 2 and 3 were put together into one new value: being in a relationship (n=85).

### ***Listening to sad Music***

The participants were asked whether they generally listen to sad music. The question was answered on a 5-point Likert scale ranging from 1 (does not apply at all) to 5 (applies completely).

### ***Feeling sad***

For this variable three questions were answered by the participants about how they were feeling: (1) *how good do you feel now?* (2) *how satisfied do you feel now?* (3) *how happy do you feel now?* The answers ranged from 1 (not at all) to 7 (very much) on a Likert scale. For this study the questions were recoded, so instead of answering 1: I do not feel good at all, they now answered 7: I feel very bad. With 1 meaning I do not feel bad at all. The three items were run through the factor analysis, which gave 86.38 for the % of explained variance. The reliability analysis gave a Cronbach's  $\alpha$  of 0,921, so the scale was made out of these three items.

### ***Openness to new Experiences***

The participants provided answers on three questions regarding personal characteristics: (1) *having new ideas*, (2) *having a vivid imagination*, and (3) *giving value to artsy experiences*. The answers ranged from 1 (does not apply at all) to 7 (applies completely). The factor analysis gave 57.113 for % of explained variance. The reliability analysis gave a Cronbach's  $\alpha$  of 0,603. The Cronbach's  $\alpha$  would be higher ( $\alpha = 0,665$ ) if the item '*giving value to artsy experiences*' is removed, however the original research kept the item in the scale, so that will also be done here.

## Statistical Analyses

All analyses were carried out in SPSS 28 for Windows. *P*-values lower than 0.05 are considered significant. The possible effects of relationship status, gender and openness to new experiences on listening to sad music were explored through regression analyses. Even as the possible mediating effect of feeling sad.

## Results

### Descriptive Results

40,4% of the females in the sample were in a relationship at the time that they filled in the questionnaire, compared to 32,1% of the men in this study. Table 1 shows the means of openness to new experiences, feeling sad and listening to sad music for gender and relationship status. The independent t-tests showed no significant differences between males or females. Also no significant differences were detected between late adolescents and emerging adults who were single or who were in a relationship.

**Table 1**

*Means and Standard Deviation of the Dependent and Independent Variables Separated by Gender and Relationship Status*

	<b>Openness to new experiences Scale (1-7)</b>	<b>Feeling sad Scale (1-7)</b>	<b>Listening to sad music Scale (1-5)</b>
<b>Male</b>	4,92 (1,06)	3,36 (1,14)	3,00 (0,78)
<b>Female</b>	5,08 (1,22)	3,30 (1,14)	2,86 (0,77)
<b>Single</b>	4,91 (1,15)	3,47 (1,18)	2,98 (0,80)
<b>Relationship</b>	5,13 (1,09)	3,09 (0,99)	2,85 (0,74)

## Correlation Results

Table 2 shows the correlation of the variables feelings sad, openness to new experiences, relationships status and listening to sad music divided by gender. Two significant correlations were present. Feeling sad and openness to new experiences were both positively correlated with listening to sad music among males. So, for males there was a connection between these two variables and listening to sad music.

**Table 2**

*Correlation of the Variables Separated by Gender*

	Female	Openness to new experiences	Feeling sad	Listening to sad music
Male				
Openness to new experiences	-		0,072	0,170
Feeling sad	0,004		-	-0,010
Listening to sad music	0,248**		0,274**	-

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Regression Results

**Table 3**

*Regression Analyses in 4 Separate Models*

	Model 1			Model 2			Model 3			Model 4		
	B	SE B	$\beta$	B	SE B	$\beta$	B	SE B	$\beta$	B	SE B	$\beta$
<i>Background</i>												
Gender	.125	.102	.079	-	-	-	.146	.100	.093	.145	.101	.092
Relationship status (RS)	.117	.106	.072	-	-	-	.148	.104	.091	.147	.105	.090
<i>Gender and RS</i>												
Male single ( <i>reference</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Male in relation	-	-	-	-.068	.145	-.034	-	-	-	-	-	-
Female single	-	-	-	-.086	.129	-.049	-	-	-	-	-	-
Female in relation	-	-	-	-.260	.146	-.127	-	-	-	-	-	-
<i>Personality and Mood</i>												
Openness	-	-	-	-	-	-	.149	.044	.217***	.131	.077	.191
Interaction RS * Openness	-	-	-	-	-	-	-	-	-	.027	.094	.032
R <sup>2</sup>			.004			.001			.047			.043
F change			1.478			1.063			11.538***			.081

\*\*\*. Regression is significant at the 0.001 level.

### ***Model 1: Background Effects***

The results of the regression analyses, shown in table 3, revealed that there was no significant difference between men and women in listening to sad music ( $\beta = ,079$ ,  $t = 1,219$ ,  $p = ,224$ ). No significant effect for relationship status was found either, implying that being single predicted no greater frequency of listening to sad music in comparison to being in a relationship ( $\beta = ,072$ ,  $t = 1,103$ ,  $p = ,271$ ). The explained variance of this model was  $R^2 = ,004$ .

### ***Model 2: Interaction Effect Gender and Relationship Status***

In this model the interaction effect between gender and relationship status is investigated. The regression analyses revealed no significant effects for males in a relationship ( $\beta = -,034$ ,  $t = -,473$ ,  $p = ,637$ ) and females who were single ( $\beta = -,049$ ,  $t = -,671$ ,  $p = ,503$ ) in comparison to males who were single. However females in a relationship were slightly less prone to listen to sad music in comparison to single males. It must be noted that this result is only marginally significant at  $p = 076$  ( $\beta = -,127$ ,  $t = -1,782$ ,  $p = ,076$ ). The explained variance of this model was  $R^2 = ,001$ .

### ***Model 3: Main Effects***

The third model regarded the main effects for gender, relationship status and openness to new experiences. The effect of gender ( $\beta = ,093$ ,  $t = 1,455$ ,  $p = ,147$ ) as well as relationship status ( $\beta = ,091$ ,  $t = 1,424$ ,  $p = ,156$ ) were still not significant. However, a main effect was found for openness to new experiences: late adolescents and emerging adults who are open to new experiences were more prone to listen to sad music ( $\beta = ,217$ ,  $t = 3,397$ ,  $p < ,001$ ). The explained variance for this model was  $R^2 = ,047$ .

### ***Model 4: Interaction Effect Openness to new Experiences and Relationship Status***

No interaction effect for openness to new experiences and relationship status was found, indicating that openness to new experiences does not change the relationship between relationship

status and listening to sad music ( $\beta = ,032$ ,  $t = ,285$ ,  $p = ,776$ ). The explained variance for this model was  $R^2 = ,043$ .

### *Feeling sad*

It was hypothesized that feeling sad would mediate the effect of relationship status on listening to sad music. However because no significant main effect was found between relationship status and listening to sad music, mediation could not take place. Instead of testing the mediating effect, the indirect effect of feeling sad was tested, using the Sobel Test.

A main effect was found for relationship status on feeling sad ( $\beta = .174$ ,  $t = 2,564$ ,  $p = ,011$ ,  $R^2 = ,026$ ) and for feeling sad on listening to sad music ( $\beta = ,161$ ,  $t = 2,363$ ,  $p = ,019$ ,  $R^2 = ,030$ ). The Sobel Test gave a non-significant effect for the total indirect path from relationship status to listening to sad music with the test statistics of 1.731, std. error of 0,026 and  $p = 0,083$ . This implies that being in a relationship is significantly related to feeling sad, and that feeling sad is related to listening to sad music, but that the total indirect effect is negligible.

## **Discussion**

The aim of this study was to investigate whether late adolescents and emerging adults who are not in a romantic relationship are more prone to listen to sad music. The hypothesis was that this would be the case (hypothesis 1). In this research we also hypothesized that there would be a difference between males and females (hypothesis 2) and having the personality trait being more or less open for new experiences (hypothesis 3). The hypotheses were that males and individuals who were more open to new experiences were more prone to listen to sad music. It was also hypothesized that the moderators 'gender (male)' (hypothesis 4) and 'openness to new experiences (positive)' (hypothesis 5) would strengthen the relationship between relationship status and listening to sad music. Lastly, it was hypothesized that feeling sad would mediate between relationship status and listening to sad music (hypothesis 6). The analyses in this study did however find no significant main and moderation effects,

except for the main effect of openness to new experiences on listening to sad music. Also no significant indirect effect was found for feeling sad.

Earlier research stated that people lacking a romantic relationship have a preference for love-lamenting songs (Knobloch & Zillman, 2003). This gave reason to believe that late adolescents and emerging adults without a romantic relationship generally would listen more to sad music (hypothesis 1). However the results provided no support for this perspective. A regression analysis was used to test this hypothesis. Against expectations the results showed that there is no significant effect between relationship status and listening to sad music. So whether late adolescents and emerging adults are in a romantic relationship or not does not have an effect on their choice of happy or sad music. This is not a reason to believe that the earlier findings are not correct. A reason for the non-significant findings in the current study could be that relationship status only has a link with music preference when the songs are about love or heartbreak and not on happy or sad music in general. In this study only the last category was investigated.

Another possible explanation could be the 'loved and lost' phenomenon, where adolescents who are currently single, but have been in a romantic relationship before, are not lonelier than those who currently are in a romantic relationship (Woodhouse et al., 2011). In the current research this distinction is not made. Late adolescents and emerging adults who were in a relationship before, but currently single and those who had been single their whole life, both fell under the heading 'being single'.

A third explanation that can strengthen the path between relationship status and feeling sad is culture. Seepersad et al. (2008) found in their study that there is a difference between U.S. and Korean students on the influence that romantic relationships have on the romantic loneliness of these students. In both countries a decrease in loneliness was related to having a romantic relationship, however the process was stronger among U.S. students. Significantly higher levels of closeness in romantic relationships were also detected among U.S. students in comparison to Korean students. This finding

could indicate that individuals place greater importance on romantic relationships in the U.S. than in Korea. Perhaps this level of importance placed on romantic relationships is also different for students in the Netherlands in comparison to students in the U.S.?

Another possible reason for this finding could be the relatively small sample size used in this study. Since a larger sample size would give larger power, it would provide more accurate mean values and a smaller margin of error. For future research it would be interesting to look at the relationship between relationship status and listening to sad music again, but with a bigger sample really focusing on the adolescents period from 13 till 19 years old. Because it is during early adolescence that interest in and attraction to potential romantic partners emerge (Shulman & Seiffge-Krenke, 2001). Besides this is listening to music also particularly important in the lives of adolescents (Miranda, 2013).

The personality trait being open to new experiences is correlated with listening to sad music in earlier research. This finding is replicated in this study and in line with the hypothesis that late adolescents and emerging adults open to new experiences are more prone to listen to sad music (hypothesis 3), implying that there is no need to reconsider the results that were found in earlier research. However the finding that openness to new experiences has no strengthening effect on relationship status in relation to listening to sad music, is not in line with the hypothesis that openness to new experiences moderates the link between relationship status and listening to sad music (hypothesis 5). The regression analysis found no significant results for this interaction effect. Single late adolescents and emerging adults who are open to new experiences are not more prone to listen to sad music than single late adolescents and emerging adults who are not open to new experiences. Perhaps with a bigger sample and a younger audience the outcome would have been different.

The hypothesis that males are more prone to listen to sad music (hypothesis 2) and the hypothesis that gender would moderate the link between relationship status and listening to sad music (hypothesis 4), is not supported either by the results of this study. The regression analysis showed no significant results for this main and interaction effect. This implies that it does not matter whether you



are a male or female in or without a romantic relationship in relation to your preference for listening to sad music. However, a marginal significant effect was found for females in a romantic relationship in comparison to single males, implying that there is reason to believe that females in a relationship are less prone to listen to sad music compared to single males. This would be in line with earlier research by Xu et al. (2021) and Hogue et al. (2015), which found that men have a higher preference for music that induced sadness than females did, but then in combination with relationship status. A bigger sample would produce a larger power to detect differences and as said before the focus on a younger audience could also be beneficial.

Lastly, the hypothesis that feeling sad mediates the link between relationship status and listening to sad music is not supported by this study. Mediation or partial mediation could not take place, because the lack of significant results for the main effect of relationship status on listening to sad music. However, a significant effect between relationship status and feeling sad was found, implying that late adolescents and emerging adults who are single experience more sad feelings than late adolescents and emerging adults who are in a romantic relationship. This is in line with the research discussed earlier. The significant effect found for the relationship between feeling sad and listening to sad music implies that late adolescents and emerging adults who feel sad are more prone to listen to sad music. This replicates earlier findings that people listen to mood-congruent songs. However, the total indirect effect between relationship status and listening to sad music as tested with the Sobel test shows a non-significant effect. Perhaps, with the alternative explanations for the main effect between relationship status and listening to sad music, a significant effect could be found and a mediation would be possible.

### **Limitations**

This study has several limitations. To start with, the sample was missing an important age group, namely the adolescents. As stated above, adolescence is an important period for both developing romantic relationships as well as listening to music. That is why it would have been interesting to

include this age group in this study. The reason that this did not happen, is that existing data was used and only participants older than 18 years were included in the study by Hanser et al. (2016). As consequence, this younger audience could also not be included in the current study and the focus came to lie on late adolescents and emerging adults.

Another limitation of this study is the content validity of the scale 'feeling sad' that was created out of the questions: (1) *how good do you feel now?* (2) *how satisfied do you feel now?* (3) *how happy do you feel now.* All three questions focused on how the participants were feeling at the time of filling in the questionnaire and not how they were feeling in general. However, not being in a relationship could influence their feelings of loneliness and sadness in general and not only at that moment. So, this scale may have been less adequate. Because existing data was used in this study it was not possible to create a better suiting scale.

However, this study also has certain strengths as it was the first to investigate the association between relationship status and listening to sad music, whilst also attempting to explore the possible moderating effects of 'gender' and 'openness to new experiences', and the mediating effect of 'feeling sad'. Each of these variables had previously been associated with listening to sad music (Ladinig & Schellenberg, 2012; Xu et al., 2021; Taruffi & Koelsch, 2014). Another strength of this study is the equal division of males and females in the sample.

### **Recommendation for Future Research**

For future research it could be relevant to take the following adaptations into consideration. First of all, it could be relevant to work with a bigger and different sample, with the sample size focusing on the adolescents period from 13 till 19 years old, instead of focusing on late adolescence and emerging adulthood as done in the current study. As stated above is adolescence an important period where love interests are starting to form and music is often listened to.

Secondly, to further uncover the link between relationship status and listening to sad music, it could be useful for future researchers on this subject to make a distinction between individuals who

have been in a relationship and those that have never been in a relationship, instead of the distinction used in the current study: being in a relationship or being single. Another distinction that could be made to strengthen the main effect of relationship status on listening to sad music is culture.

Lastly, in future research a more adequate scale for 'feeling sad' should be created, in which the questions really focus on feelings of sadness in general and not only at the moment of filling in the questionnaire.

## **Conclusion**

No proof was found in the current study that late adolescents and emerging adults who are not in a romantic relationship are more prone to listen to sad music in comparison to late adolescents and emerging adults who are in a relationship. A positive finding for practice, because an earlier study (ter Bogt et al., 2019) found that listening to sad music can evoke sadness for certain people. Because the current results show that single late adolescents and emerging adults are not at risk for listening more to sad music than late adolescents and emerging adults who are in a romantic relationship, we do not need to worry that late adolescents and emerging adults who lack a romantic relationship will increase their feelings of sadness by listening to sad music.

However, if another study, with the adaptations given above, would be done an effect could be found. In that case it would be best for those single people to stay away from sad music, especially if it worsens their mood, and instead listen to some happy tunes or other music that will brighten their mood.

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## Appendices

### Appendix 1: Igitur Form

Student nummer:	5859964
Initials & prefixes:	S. R.
Family name:	Kranendonk
Master:	Youth Studies

#### *Begeleider*

Name supervisor/assessor: *	Tom ter Bogt
Name 2th assessor:	

#### *Scriptie*

Title thesis: *	<b>Relationship Status, Feeling Sad, Openness to New Experiences and Gender Differences in Preference for Listening to Sad Music among Late Adolescents and Emerging Adults</b>
Language thesis: *	English
Abstract:	
Key words: (seperated by ;)	
Make public: *	No
Make public after date:	

Ingevuld op: \* 10 juni 2022

Door: \* Sara Kranendonk

\* = Obligated to fill in

## Appendix 2 contract data-use TED track

Utrecht, 2020

This letter constitutes formal confirmation of the fact that the data from the Utrecht University Youth Studies 2021/2022 have been made available to Sara Kranendonk of Utrecht University.

These data will not be made available to others, and the data may be used only for analysis and reporting on topics for the thesis, about which agreement has been reached with T. ter Bogt.

Sara Kranendonk will receive access to the data from the dataset in order to answer the following research questions within the framework of the thesis:

Research question:

- Are adolescents who are not in a relationship more prone to listen to sad music?

Sub-questions:

- Does openness to new experiences moderate the link between relationship status and listening to sad music?
- Does gender moderate the link between relationship status and listening to sad music?
- Does feeling sad mediate the link between relationship status and listening to sad music?

The following variables will be used:

Dependent variable: listening to sad music

Independent variables: Relationship status

Other variables: Gender, Openness to new experiences, Feeling sad

No report based on the data from the project entitled 'Relationship Status, Openness to New Experiences and Gender Differences in Preference for Listening to Sad Music among Adolescents' will be made public, unless permission has been obtained in advance from the Project Coordinator for the Master Thesis 'Relationship Status, Openness to New Experiences and Gender Differences in Preference for Listening to Sad Music among Adolescents'.

After the expiration of this contract, dated June 30, 2022, Sara Kranendonk shall delete the Master Thesis 'Relationship Status, Openness to New Experiences and Gender Differences in Preference for Listening to Sad Music among Adolescents' data.

Dates and signature:

Name of student:

Sara Kranendonk

Name of Project Coordinator:



**Appendix 3: Syntax**

DATASET ACTIVATE DataSet8.

FREQUENCIES VARIABLES=Sex

/ORDER=ANALYSIS.

DESCRIPTIVES VARIABLES=Age

/STATISTICS=MEAN STDDEV MIN MAX.

RECODE FeltEmo2\_4 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO FeltEmo2\_4\_REC.

VARIABLE LABELS FeltEmo2\_4\_REC 'hoe NIET gelukkig voelt u zich nu'.

EXECUTE.

RECODE FeltEmo2\_3 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO FeltEmo2\_3\_REC.

VARIABLE LABELS FeltEmo2\_3\_REC 'hoe NIET tevreden voelt u zich nu'.

EXECUTE.

RECODE FeltEmo2\_1 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO FeltEmo2\_1\_REC.

VARIABLE LABELS FeltEmo2\_1\_REC 'hoe NIET prettig voelt u zich nu'.

EXECUTE.

RECODE MuzCommon\_1 (1=5) (2=4) (3=3) (4=2) (5=1) INTO MuzCommom\_1\_REC.

VARIABLE LABELS MuzCommom\_1\_REC 'ik luister vooral NIET naar vrolijke muziek'.

EXECUTE.

FACTOR

/VARIABLES FeltEmo2\_4\_REC FeltEmo2\_3\_REC FeltEmo2\_1\_REC

/MISSING LISTWISE

/ANALYSIS FeltEmo2\_4\_REC FeltEmo2\_3\_REC FeltEmo2\_1\_REC

/PRINT INITIAL EXTRACTION ROTATION

/FORMAT SORT

/CRITERIA MINEIGEN(1) ITERATE(25)

/EXTRACTION PC

/CRITERIA ITERATE(25)

```
/ROTATION VARIMAX  
/METHOD=CORRELATION.
```

## RELIABILITY

```
/VARIABLES=FeltEmo2_4_REC FeltEmo2_3_REC FeltEmo2_1_REC  
/SCALE('feeling sad') ALL  
/MODEL=ALPHA  
/STATISTICS=DESCRIPTIVE SCALE  
/SUMMARY=TOTAL.
```

## FACTOR

```
/VARIABLES BFI_S_4 BFI_S_9 BFI_S_14  
/MISSING LISTWISE  
/ANALYSIS BFI_S_4 BFI_S_9 BFI_S_14  
/PRINT INITIAL EXTRACTION ROTATION  
/FORMAT SORT  
/CRITERIA MINEIGEN(1) ITERATE(25)  
/EXTRACTION PC  
/CRITERIA ITERATE(25)  
/ROTATION VARIMAX  
/METHOD=CORRELATION.
```

## RELIABILITY

```
/VARIABLES=BFI_S_4 BFI_S_9 BFI_S_14  
/SCALE('openess to new experiences') ALL  
/MODEL=ALPHA  
/STATISTICS=DESCRIPTIVE SCALE  
/SUMMARY=TOTAL.
```

## FACTOR

```
/VARIABLES MuzCommon_2 MuzCommom_1_REC  
/MISSING LISTWISE  
/ANALYSIS MuzCommon_2 MuzCommom_1_REC  
/PRINT INITIAL EXTRACTION ROTATION
```

```

/FORMAT SORT
/CRITERIA MINEIGEN(1) ITERATE(25)
/EXTRACTION PC
/CRITERIA ITERATE(25)
/ROTATION VARIMAX
/METHOD=CORRELATION.

```

## RELIABILITY

```

/VARIABLES=MuzCommon_2 MuzCommom_1_REC
/SCALE('listening to sad music') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL.

```

```

RECODE Sex Age MuzCommon_1 Relationsh MuzCommon_2 BFI_S_4 BFI_S_9 BFI_S_14 FeltEmo2_1
FeltEmo2_3

```

```

    FeltEmo2_4 PERSONALITY_Openness FeltEmo2_4_REC FeltEmo2_3_REC FeltEmo2_1_REC
MuzCommom_1_REC
    (MISSING=999).

```

```
EXECUTE.
```

```
COMPUTE openness_experiences=MEAN(BFI_S_4,BFI_S_9,BFI_S_14).
```

```
EXECUTE.
```

## CORRELATIONS

```

/VARIABLES=openness_experiences PERSONALITY_Openness
/PRINT=TWOTAIL NOSIG FULL
/MISSING=PAIRWISE.

```

```
COMPUTE Feeling_sad=MEAN(FeltEmo2_4_REC,FeltEmo2_3_REC,FeltEmo2_1_REC).
```

```
EXECUTE.
```

```

RECODE Sex Age MuzCommon_1 Relationsh MuzCommon_2 BFI_S_4 BFI_S_9 BFI_S_14 FeltEmo2_1
FeltEmo2_3

```

```
FeltEmo2_4 PERSONALITY_Openness FeltEmo2_4_REC FeltEmo2_3_REC FeltEmo2_1_REC  
MuzCommom_1_REC
```

```
openness_experiences Feeling_sad (MISSING=999).
```

```
EXECUTE.
```

```
RECODE Relationsh (1=1) (2=2) (3=2) INTO Relationship_NEW.
```

```
VARIABLE LABELS Relationship_NEW 'relationship_NEW'.
```

```
EXECUTE.
```

```
FREQUENCIES VARIABLES=Relationship_NEW Relationsh
```

```
/HISTOGRAM
```

```
/ORDER=ANALYSIS.
```

```
ONEWAY MuzCommon_2 Feeling_sad BY Relationsh
```

```
/ES=OVERALL
```

```
/MISSING ANALYSIS
```

```
/CRITERIA=CILEVEL(0.95)
```

```
/POSTHOC=BONFERRONI ALPHA(0.05).
```

```
ONEWAY MuzCommon_2 Feeling_sad BY Relationsh
```

```
/ES=OVERALL
```

```
/STATISTICS DESCRIPTIVES
```

```
/MISSING ANALYSIS
```

```
/CRITERIA=CILEVEL(0.95)
```

```
/POSTHOC=BONFERRONI ALPHA(0.05).
```

```
T-TEST GROUPS=Relationship_NEW(1 2)
```

```
/MISSING=ANALYSIS
```

```
/VARIABLES=Feeling_sad MuzCommon_2
```

```
/ES DISPLAY(TRUE)
```

```
/CRITERIA=CI(.95).
```

```
T-TEST GROUPS=Sex(1 2)
```

```
/MISSING=ANALYSIS
```

```
/VARIABLES=Relationship_NEW
```

```
/ES DISPLAY(TRUE)
```

```
/CRITERIA=CI(.95).
```

```
DATASET ACTIVATE DataSet8.
```

```
RECODE Sex (1=1) (2=0) INTO male_dummy.
```

```
EXECUTE.
```

```
CROSSTABS
```

```
/TABLES=Relationsh BY Relationship_NEW
```

```
/FORMAT=AVALUE TABLES
```

```
/CELLS=COUNT
```

```
/COUNT ROUND CELL.
```

```
RECODE Relationship_NEW (1=1) (2=0) INTO Relationship_dummy.
```

```
EXECUTE.
```

```
DESCRIPTIVES VARIABLES=Feeling_sad openness_experiences
```

```
/STATISTICS=MEAN STDDEV MIN MAX.
```

```
COMPUTE Feeling_sad_c=Feeling_sad-3.3396.
```

```
EXECUTE.
```

```
DESCRIPTIVES VARIABLES=Feeling_sad Feeling_sad_c
```

```
/STATISTICS=MEAN STDDEV MIN MAX.
```

```
COMPUTE Openness_experiences_c=openness_experiences-4.9902.
```

```
EXECUTE.
```

```
DESCRIPTIVES VARIABLES=openness_experiences Openness_experiences_c
```

```
/STATISTICS=MEAN STDDEV MIN MAX.
```

```
COMPUTE Interaction_RS_Gender=Relationship_NEW*male_dummy.
```

```
EXECUTE.
```

```
COMPUTE Interaction_RS_openness=Relationship_dummy*Openness_experiences_c.  
EXECUTE.
```

```
COMPUTE D_Male_Relation=0.  
EXECUTE.
```

```
IF(male_dummy=1 AND Relationship_dummy=0) D_Male_Relation=1.  
EXECUTE.
```

```
COMPUTE D_Female_single=0.  
EXECUTE.
```

```
IF(male_dummy=0 AND Relationship_dummy=1) D_Female_single=1.  
Execute.
```

```
COMPUTE D_Female_Relation=0.  
EXECUTE.
```

```
IF(male_dummy=0 AND Relationship_dummy=0) D_Female_Relation=1.  
EXECUTE.
```

```
REGRESSION
```

```
  /MISSING LISTWISE  
  /STATISTICS COEFF OUTS R ANOVA  
  /CRITERIA=PIN(.05) POUT(.10)  
  /NOORIGIN  
  /DEPENDENT MuzCommon_2  
  /METHOD=ENTER Relationship_dummy male_dummy.
```

```
REGRESSION
```

```
  /MISSING LISTWISE  
  /STATISTICS COEFF OUTS R ANOVA  
  /CRITERIA=PIN(.05) POUT(.10)  
  /NOORIGIN  
  /DEPENDENT MuzCommon_2  
  /METHOD=ENTER D_Male_Relation D_Female_single D_Female_Relation.
```

## REGRESSION

```
/MISSING LISTWISE  
/STATISTICS COEFF OUTS R ANOVA  
/CRITERIA=PIN(.05) POUT(.10)  
/NOORIGIN  
/DEPENDENT MuzCommon_2  
/METHOD=ENTER male_dummy Relationship_dummy  
/METHOD=ENTER Openness_experiences_c.
```

## REGRESSION

```
/MISSING LISTWISE  
/STATISTICS COEFF OUTS R ANOVA  
/CRITERIA=PIN(.05) POUT(.10)  
/NOORIGIN  
/DEPENDENT MuzCommon_2  
/METHOD=ENTER male_dummy Relationship_dummy  
/METHOD=ENTER Openness_experiences_c  
/METHOD=ENTER Interaction_RS_openness.
```

## REGRESSION

```
/MISSING LISTWISE  
/STATISTICS COEFF OUTS R ANOVA  
/CRITERIA=PIN(.05) POUT(.10)  
/NOORIGIN  
/DEPENDENT MuzCommon_2  
/METHOD=ENTER Feeling_sad_c.
```

## REGRESSION

```
/MISSING LISTWISE  
/STATISTICS COEFF OUTS R ANOVA  
/CRITERIA=PIN(.05) POUT(.10)  
/NOORIGIN  
/DEPENDENT Feeling_sad_c
```

```
/METHOD=ENTER Relationship_dummy.
```

```
DESCRIPTIVES VARIABLES=MuzCommon_2 male_dummy Feeling_sad_c Openness_experiences_c  
Relationship_dummy
```

```
/STATISTICS=MEAN STDDEV MIN MAX.
```

```
DESCRIPTIVES VARIABLES=Age
```

```
/STATISTICS=MEAN STDDEV MIN MAX.
```

```
DESCRIPTIVES VARIABLES=Feeling_sad openness_experiences male_dummy Relationship_dummy  
MuzCommon_2
```

```
/STATISTICS=MEAN STDDEV MIN MAX.
```

```
NONPAR CORR
```

```
/VARIABLES=MuzCommon_2 openness_experiences Feeling_sad male_dummy Relationship_dummy
```

```
/PRINT=SPEARMAN TWOTAIL NOSIG FULL
```

```
/MISSING=PAIRWISE.
```

```
CORRELATIONS
```

```
/VARIABLES=MuzCommon_2 openness_experiences Feeling_sad male_dummy Relationship_dummy
```

```
/PRINT=TWOTAIL NOSIG FULL
```

```
/MISSING=PAIRWISE.
```

```
SORT CASES BY male_dummy.
```

```
SPLIT FILE LAYERED BY male_dummy.
```

```
DESCRIPTIVES VARIABLES=Feeling_sad openness_experiences male_dummy Relationship_dummy  
MuzCommon_2
```

```
/STATISTICS=MEAN STDDEV MIN MAX.
```

```
NONPAR CORR
```

```
/VARIABLES=MuzCommon_2 openness_experiences Feeling_sad male_dummy Relationship_dummy
```

```
/PRINT=SPEARMAN TWOTAIL NOSIG FULL
```

```
/MISSING=PAIRWISE.
```