

Music, the Great Communicator. A Cross-sectional Study on the Association between Music Preference and Life Satisfaction among High School Students

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Master Youth Studies

June, 2021

Samenvatting

Onderzoek van Trimbos Instituut laat zien dat de levenstevredenheid daalt onder Nederlandse adolescenten. Vrienden en muziek zijn twee belangrijke bronnen van levenstevredenheid onder adolescenten (Trimbos Instituut, 2020). Dit onderzoek focust op de relatie tussen muziekpreferentie en levenstevredenheid vanuit een sociologisch perspectief. Het is onderzocht of de relatie tussen muziekpreferentie en levenstevredenheid verklaart kan worden door twee onderliggende mechanismen, namelijk het hebben van meer online vrienden en de kwaliteit van vriendschappen. Cross-sectionele data van de HBSC studie is gebruikt om de onderzoeksvraag te beantwoorden. De representatieve sample van dit onderzoek bestaat uit 1451 Nederlandse middelbare scholieren ($M_{leeftijd} = 14$; $SD_{leeftijd} = 1.56$; 43.7% jongens). Resultaten tonen aan dat muziekpreferentie correleert met levenstevredenheid ($\beta = -0.18$; $p < .01$). Adolescenten met een nonmainstream muziekpreferentie hebben significant een lagere levenstevredenheid dan adolescenten met een mainstream muziekpreferentie. Tegen verwachtingen in kan deze relatie niet worden verklaard door de twee onderliggende mechanismen, namelijk het hebben van meer online vrienden en de kwaliteit van vriendschappen. Echter, de resultaten van dit onderzoek moeten worden beschouwd in de context van de studie en de limitaties hiervan.

Abstract

Research from Trimbos Institute (2020) shows that life satisfaction is decreasing among Dutch adolescents. Friends and music are two important sources for adolescents' life satisfaction (Trimbos Institute, 2020). This research focuses on the relationship between music preference and life satisfaction from a sociological point of view. It seeks to examine whether the relationship between music preference and life satisfaction is explained by two underlying mechanisms, namely having more online friends and the quality of friendships. To answer the research question, cross-sectional data from the HBSC study is used. The representative sample of this research consists of 1451 Dutch high school students ($M_{age} = 14$; $SD_{age} = 1.56$; 43.7% boys). Results showed that music preference is correlated with life satisfaction ($\beta = -0.18$; $p < .01$). Adolescents who prefer nonmainstream music have a significantly lower life satisfaction than adolescents who prefer mainstream music. Contrary to expectations, this relation was not explained by the two underlying mechanisms that were tested, namely having more online friends and the quality of friendships. Yet, the results of this study should only be understood in the context of the study and its limitations.

Key words: *music preference, life satisfaction, online friendships, quality of friendships, adolescents*

A Cross-sectional Study on the Association between Music Preference and Life Satisfaction among High School Students

A recent research from the Trimbos Institute (2020) shows that Dutch adolescents are less happy and satisfied with their lives than before. Life satisfaction refers to the degree to which a person positively evaluates the overall quality of his/her life as-a-whole. Synonyms for life satisfaction are happiness and the subjective well-being (Veenhoven, 1996). Together with UNICEF, the Trimbos Institute sound the alarm bell for this decrease in life satisfaction among Dutch adolescents (Trimbos, 2020). In their research adolescents are being asked what still makes them happy. Two frequently appointed things are listening to music and spending time with friends (Trimbos, 2020). This research explores the relationship between music preference and life satisfaction and the influence of friends on this relationship. This leads to the following research question: *“To what extent is the relationship between music preference and life satisfaction explained by having more online friends and the quality of friendships?”*.

The Relationship between Music Preference and Life Satisfaction

Listening to music is associated with someone’s psychological well-being (Croom, 2015). On the one hand, music makes adolescents’ life more varied and colourful and offers resources for increasing and restoring their well-being (Saarikallio & Erkkilä, 2007). On the other hand, this positive association between music and people’s well-being turns out not to be true for all music preferences (Susino & Schubert, 2019). Firstly, findings in Sigg’s (2009) research indicate that listening to music from the dance scene is associated with higher chances of suffering from a depression or having feelings of anxiety. A theoretical explanation for this association is the high amount of illicit drug use in the dance scene, for example ecstasy. Especially the after-effect of those kind of drugs are associated with depression and anxiety (Klitzman, 2006).

Secondly, findings in Susino and Schubert’s research (2019) indicate that hip-hop stimuli and heavy-metal stimuli are perceived as expressing more negative emotions than pop stimuli. These findings can be explained by the Stereotype Theory of Emotion in Music (STEM). STEM proposes that listeners recognise and associate specific emotions to styles of music on the basis of stereotypical preconceptions they hold regarding the culture from which the music emerged (Susino & Schubert, 2017). Thus, emotional recognition is influenced by the stereotyping filter of the listener (Susino & Schubert, 2017). Rap and Heavy-Metal music are often stereotyped as “problem music”, music with negative and problematic subcultures (North & Hargreaves, 2006). Because of this stereotype, people who listen to and prefer Rap

and Heavy-Metal music are more likely to recognize negative emotions when they listen to these styles of music (North & Hargreaves, 2006).

Thirdly, findings from a cross-sectional study indicate that preference for Rock/Gothic music is an indicator in adolescence for vulnerability to suicidal thoughts and actions (Martin et al., 1993). Underlying mechanisms that can explain this association are delinquent and risk-taking behaviour, drug and alcohol abuse, and family psychopathology. These concepts are indicators of individual vulnerability and turn out to be correlated with rock preference (Martin et al., 1993).

Lastly, happy music, for example pop music, is found to generate more happiness and less sadness than sad music, such as, classical music for example (Lundqvist et al., 2009). These findings are consistent with the Differential Emotions Theory, whereby music does not only express emotion, it is also capable of producing specific emotional effects for the listener (Abe & Izard, 1999; Scherer & Zentner, 2001). For example, listening to sad music induces specific emotions of sadness for the listener, while listening to happy music induces specific emotions of happiness (Lundqvist et al., 2009).

This research makes a distinction between mainstream music (Pop/Top 50) and nonmainstream music (Hip-hop/R&B, Gothic/Emo, Classical music, Dance/Techno/Hardstyle). Mainstream music refers to the most popular music, the music with the biggest force of attraction and the largest audience (Sernoe, 2005). Above-mentioned theories and findings show that music can affect people's emotions and life satisfaction in different ways. These theories and findings also indicate a difference in life satisfaction among people who prefer mainstream music and people who prefer nonmainstream music. Consequently, it is hypothesized that:

H1: adolescents who prefer nonmainstream music will have a lower life satisfaction than adolescents who prefer mainstream music (see Figure 1).

The Mediating Role of Having More Online Friends and the Quality of Friendships

Besides the general explanations for the direct relationship between music preference and life satisfaction, friendships and the quality of friendships could also be underlying mechanisms in this relationship. The indirect path between music preference and life satisfaction will be investigated through two subsequent mediators, namely having more online friends and the quality of friendships.

Firstly, the association between music preference and having more online friends will be explained. A possible theoretical explanation for this association is the Social Identity Theory. This theory deals with intergroup relations – that is, how people come to see

themselves as member of a group (the in-group) compared to another group (the out-group) (Stets & Burke, 2000). Listening to the same music enables adolescents to be members of musical subcultures providing a range of social cognitions, values, interests, identities, behavioural codes and, most importantly, a sense of belonging (Miranda & Claes, 2009). Additionally, music preference indicates a similarity in value orientation which turns out to be important for the formation of friendships. This similarity means that people who enjoy the same music see and experience the world in similar ways and therefore agree about more things than people who have different preferences (Boer et al., 2011; Selfhout et al., 2009).

Sernoe (2005) explains that mainstream music is the music with the biggest force of attraction and the largest audience. For adolescents who prefer mainstream music, it is easy to find their sense of belonging in the mainstream culture of society, for example at school (Kruse, 1993). However, this might not be the case for adolescents who like nonmainstream music (Kruse, 1993). With the rise of Internet, an easy and accessible source is created for adolescents who like nonmainstream music to find musical brothers-in-arms in their musical subcultures (Williams, 2006). Williams (2006, 195) states “the Internet is a social space through which personal and social identities are constructed, given meaning, and shared through the ritual of computer-mediated intervention”. Thus, Internet is an important source for communication in nonmainstream musical subcultures, an easy way to find each other and create a sense of belonging together (Williams, 2006). Empirical findings on the association between music preference and having more online friends are lacking. Yet, based on the above-mentioned theoretical explanations, it is hypothesized that:

H2: adolescents who prefer nonmainstream music will have more online friends than adolescents who prefer mainstream music (see Figure 1).

Secondly, having more online friends is related to the quality of these friendships. Aristotle (1984) argues in the Theory of the Good Life that human flourishing is mainly realized through ‘complete’ friendships. Four dimensions of these complete friendships are important: reciprocity, empathy, self-knowledge and the shared life (Vallor, 2012). Online social media can strengthen friendships particularly when used to supplement rather than substitute face-to-face interactions. Yet, online friendships miss the highest form of friendship, namely the shared life. For online friendships it is mostly important to share information about each other’s lives, rather than sharing lives and undertaking activities together (Vallor, 2012).

Baym and Ledbetter (2009) examined the strength of friendships among 612 Last.FM users. They found that friendships on this social network site have a weaker nature of ties and

miss a deeper relational development when friends only communicate on site (Baym & Ledbetter, 2009). Bargh and McKenna (2004) also argue that when online social media substitute the face-to-face interaction in friendships, online friendships lack the intimacy that offline friends do have with each other. These findings indicate an association between online friendships and a lower quality of these friendships. Consequently, it is hypothesized that: H3: higher levels of online friendships are negatively related to the quality of friendships (see Figure 1).

Lastly, the quality of friendships is associated with someone's life satisfaction. Clear distinctions are made between best, close, and casual friendships (Antonucci, 2001). Three attributes of friendship are important for this distinction, namely the support that is received from friends, satisfaction with the friendship and the quality of friendship in general. These three attributes are important indicators for someone's life satisfaction (Demir & Özdemir, 2010). The closer the friendship, the more clearly it manifests the three attributes of friendship and thus someone's life satisfaction. So, enjoying a high quality friendship is positively related to life satisfaction (Demir et al., 2007).

Findings of Demir and Weitekamp's (2007) cross-sectional research are consistent with this theoretical explanation. The overall conclusion of this research is that friendship quality was a great predictor for happiness and friendship conflict was not a significant predictor for happiness, both when controlling for personality. This means that having a high quality friendship has the potential to increase someone's life satisfaction regardless of their personality. Besides this, it is the quality, not the quantity of friendships that makes a difference in an individual's life satisfaction (Demir & Weitekamp, 2007). Hence, it is hypothesized that:

H4: a lower quality of friendships is negatively related to life satisfaction (see Figure 1).

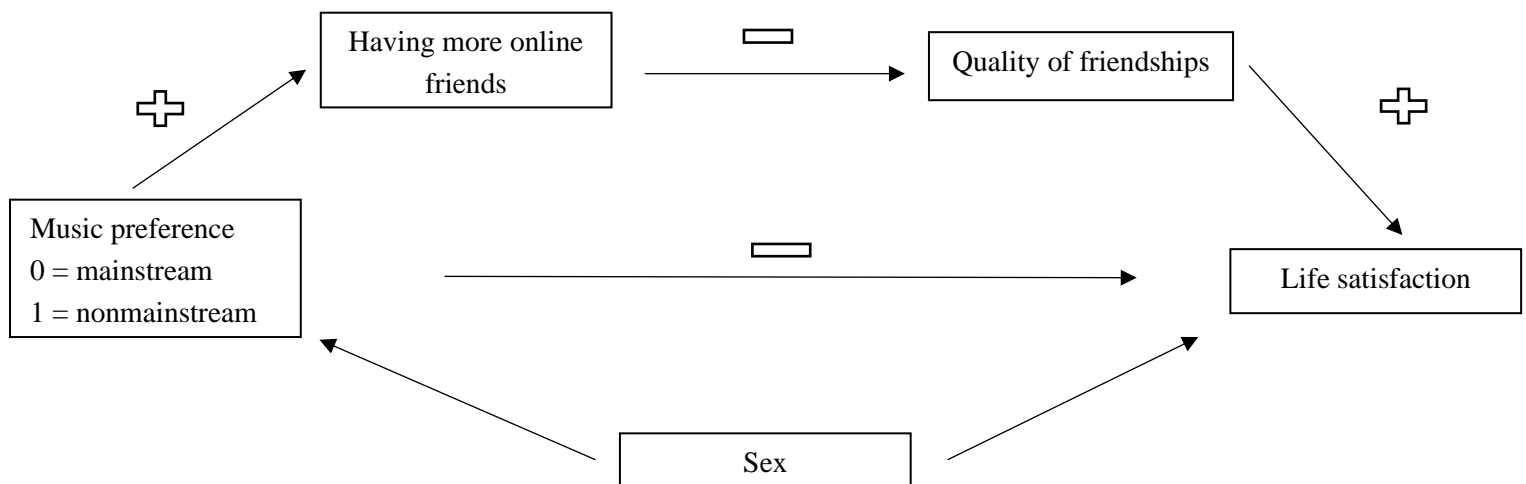


Figure 1. Research model

Methods

Design and Participants

The current study was part of a cross-sectional study with a quantitative design. For this research the dataset of the Health Behaviour in School-aged Children (HBSC) was used. This study used the dataset from HBSC that was collected in the Netherlands among secondary school students in the cohort of 2017/2018. The data for this cohort was collected in the autumn of 2017 among 7450 children from secondary schools. In this research 252 cases were removed from the original dataset due to too many missing, extreme, or unreliable values. Lastly, participants who scored only high or low on both mainstream and nonmainstream music were also excluded, because a distinction was made between adolescents who only prefer mainstream music and adolescents who only prefer nonmainstream music. The final sample of this study consisted of 1451 participants.

Participants were 11 to 19 years old ($M=14$; $SD = 1.56$). All participants were enrolled in a Dutch school for secondary education. Participants were enrolled in different educational tracks; 44.9 % of the participants were in General Secondary Education (VMBO), 21.8 % of the participants were in Higher Secondary Education (HAVO), 4.4 % were in mixed Secondary Education (VMBO/HAVO or HAVO/VWO), and 28.9 % were in Pre-University Education (VWO). Finally, 43.7 % of the participants were boys and 56.3 % of the participants were girls.

Procedure

HBSC collected the data through self-completion questionnaires which were administered in the classroom. Because the participants of the HBSC study are mostly minors, active consent from parents or legal guardians was very important. Approval letters were sent to parents in which it was mentioned that participation was fully voluntary and anonymous. Both parents and child were able to decide any minute to stop participating (HBSC, 2018).

Measures

Music Preference. The independent variable in this study is music preference ($M = 0.12$; $SD = 0.33$). Music preference (Pop/Top 50, Hip-hop/R&B, Gothic/Emo, Classical music, Dance/Techno/Hardstyle) was measured with “To what degree do you like this music genre?”. Answers were given on a six-point Likert scale (1 = I don’t know this preference, 6 = Very Good). Higher scores indicate higher levels of likeness of this music genre. In this study, music preference is separated into two categories, namely mainstream music (Pop/Top 50) and nonmainstream music (Hiphop/R&B, Gothic/Emo, Classical music and Dance/Techno/Hardstyle). A mean scale was created for nonmainstream music by taking

these four genres together. After creating this mean scale, participants who scored high both on mainstream and nonmainstream music or low both on mainstream and nonmainstream were excluded. After this, a dummy variable was made where a score of 0 means preferring mainstream music ($n=1274$) and 1 means preferring nonmainstream music ($n=177$).

Life Satisfaction. The dependent variable in this study is life satisfaction ($M = 7.58$; $SD = 1.59$). Life satisfaction is measured by one item, namely “How do you feel about your own life?”. Participants needed to grade their life (0 = Worst I can imagine, 10 = Best I can imagine), so higher scores indicate a higher life satisfaction.

Having More Online Friends. The first mediating variable in this study is having more online friends. This variable was measured with three items: “How often do you have online contact with good friends?, How often do you have online contact with friends from your larger circle of friends?, How often do you have online contact with friends who you know from the Internet?”. Answers were given on a six-point scale (1 = Not applicable, 6 = Almost during the whole day). A Principal Component Analysis with varimax rotation was conducted to check if this scale was unidimensional. The factors loaded on one factor with an Eigen Value greater than one. This factor explained 57.9 % of the variance. The scale for having more online friends was reliable (Chronbach’s $\alpha = 0.65$). A mean scale was created with the three items ($M = 3.43$; $SD = 0.98$), whereby higher scores indicate higher levels of having more online friends.

Quality of Friendships. The second mediating variable in this study is the quality of friendships. This variable was measured with four items: “My friends really try to help me, I can count on my friends when something goes wrong, I have friends with whom I can share life’s ups and downs, I can talk about my problems with my friends”. Answers were given on a seven-point scale (1 = Don’t agree at all, 7 = Really agree). The Principal Component Analysis showed that the factors loaded on one factor with an Eigen Value greater than one. This factor explained 86.8 % of the variance. The Reliability Analysis showed that this scale was reliable (Chronbach’s $\alpha = 0.93$). A mean scale was created with these four items ($M = 5.91$; $SD = 1.38$), whereby higher scores indicate higher quality of friendships. The visual check for this variable showed that residuals were not normally distributed. Therefore, a dummy variable was made where a score of 0 means low quality friendships ($n=399$) and 1 means high quality friendships ($n=1052$). The distinction between these two scores was made based on the median of the mean scale.

Sex. Sex is the control variable in this study. This variable was measured with one

item: “Are you a boy or a girl?”. A dummy variable was made for sex where a score of 0 means boy (n=634) and a score of 1 means girl (n=817).

Data Analysis

For this research IBM SPSS Statistics 25 was used to conduct data analyses. In order to create a replicable study, every step in SPSS was done using a syntax. Before conducting the analyses, several assumptions were checked. Firstly, every variable was checked to see if the distribution of residuals was normally distributed. Secondly, no outliers and multicollinearity were found after checking these assumptions. Finally, homoscedasticity was checked before conducting the data analyses.

Results

Descriptive Statistics

In Table 1, bivariate correlations between the studied variables are shown. The correlation between the independent variable, music preference, and the dependent variable, life satisfaction, was negative and significant. Music preference and having more online friends were positively, but not significantly, correlated. Besides this, having more online friends and the quality of friendships were also positively and significantly correlated. Lastly, the quality of friendships and life satisfaction were also positively and significantly correlated. The control variable sex was also significantly correlated with almost every variable, except from the insignificant correlation between sex and having more online friends.

Table 1.

Correlation Matrix between Music Preference, Sex, Having More Online Friends, Quality of Friendships and Life Satisfaction

	1	2	3	4	5
Music Preference	-	-	-	-	-
Sex	-0.100**	-	-	-	-
Having More Online Friends	0.037	0.020	-	-	-
Quality of Friendship	-0.082**	0.223**	0.237**	-	-
Life satisfaction	-0.181**	-0.129**	-0.071**	0.175**	-

Note. * $p < .05$, ** $p < .01$.

Relationship between Music Preference and Life Satisfaction

Firstly, the first step of the mediation analysis is performed, namely the direct effect between music preference and life satisfaction. A one-way ANOVA was conducted to

compare life satisfaction between adolescents who prefer nonmainstream music and adolescents who prefer mainstream music while controlling for sex. An important assumption for ANOVA is the homogeneity of variances between the two groups of the independent variable. The variances were unequal between the two groups ($p < .05$). Therefore, the Brown-Forsythe test was used to examine the relationship between music preference and life satisfaction. There was a significant difference in life satisfaction between adolescents who prefer nonmainstream music and adolescents who prefer mainstream music ($F(1,201) = 29.7$; $p < .001$). This means that the null hypothesis, namely the means for life satisfaction are equal between the two groups, can be rejected. Specifically, adolescents who prefer nonmainstream music ($M = 6.81$; $SD = 2.07$; [6.55-7.12]) and adolescents who prefer mainstream music ($M = 7.69$; $SD = 1.48$; [7.61-7.77]) significantly differ on life satisfaction. The effect size for the relationship between music preference and life satisfaction is small ($d = 0.18$). So, the results support Hypothesis 1.

Relationship between Music Preference and Having More Online Friends

A one-way ANOVA was conducted to compare the extent of having more online friends between adolescents who prefer nonmainstream music and adolescents who prefer mainstream music while controlling for sex. Because the variances were unequal between the two groups ($p < .05$), the Brown-Forsythe test was used to examine the relationship between music preference and having more online friends. There was no significant difference in the extent of having more online friends between adolescents who prefer nonmainstream music and adolescents who prefer mainstream music ($F(1,210) = 1.46$; $p = .229$). Thus, the null hypothesis could not be rejected, and the results are not in line with Hypothesis 2.

Relationship between Having More Online Friends and Quality of Friendships

To test the relationship between the two mediators, namely having more online friends and the quality of friendships, a binary logistic regression was conducted while controlling for sex. It was hypothesized (H3) that higher levels of online friendships were negatively related to the quality of friendships. The results of the binary logistic regression are displayed in Table 2. The odds ratio was positive and significant, but small ($OR = 1.81$; $p < .001$). The odds ratio of 1.81 means that someone is 1.81 times more likely to have high quality friendships when he or she has more online friends than when someone has less online friends. So, the results of this binary logistic regression show the opposite of H3, namely having more online friends is positively related with the quality of friendships.

Table 2.

Logistic Regression Analysis Between Having More Online Friends and Quality of Friendships

	B	S.E.	Exp(B)	95% CI
	0.595**	0.068	1.812**	[1.587-2.070]
<i>Cox & Snell R²</i>	0.057			
<i>Nagelkerke R²</i>	0.083			

Note. * $p < .05$, ** $p < .01$.

Relationship between Quality of Friendships and Life Satisfaction

For the last relationship, namely the relationship between quality of friendships and life satisfaction, a one-way ANOVA was conducted while controlling for music preference and sex. The test for homogeneity of variance showed that the variances between the two groups were not equal ($p < .05$). Therefore, the Brown-Forsythe test was used to examine the relationship between the quality of friendships and life satisfaction. Adolescents who have high quality friendships ($M = 7.75$; $SD = 1.45$; [7.67-7.84]) and adolescents who have low quality friendships ($M = 7.13$; $SD = 1.82$; [6.95-7.31]) significantly differ on life satisfaction ($F(1,599) = 37.3$; $p < .001$). The effect size for the relationship between the quality of friendships and life satisfaction is small ($d = 0.18$). Thus, the results support Hypothesis 4.

To conclude, based on the results of the mediation analysis, the relationship between music preference and life satisfaction was not mediated by having more online friends and the quality of friendships. The question of mediation is omitted due to the lack of a significant relationship between music preference and having more online friends.

Discussion

This study aimed to answer the following research question: “*To what extent is the relationship between music preference and life satisfaction explained by having more online friends and the quality of friendships?*”. The results showed that there was a significant relationship between music preference and life satisfaction. However, there was no significant relationship between music preference and having more online friends. The relationship between having more online friends and the quality of friendships was significant, but it took another direction than initially expected. Finally, there was also a significant relationship between the quality of friendships and life satisfaction. Because there was no significant relationship between the independent variable music preference and the first mediator having more online friends, the relationship between music preference and life satisfaction cannot be explained by having more online friends and the quality of friendships.

The Relationship between Music Preference and Life Satisfaction

It was hypothesized (H1) that adolescents who prefer nonmainstream music are more likely to have a lower life satisfaction than adolescents who prefer mainstream music. Results showed that music preference and life satisfaction are related. Results showed that, in line with Hypothesis 1, adolescents who prefer nonmainstream music have a lower life satisfaction than adolescents who prefer mainstream music.

These findings can be explained by two different theories. The Stereotype Theory of Emotion in Music (STEM) proposes that listeners can recognize emotion in music, based on stereotypical associations held by the listener about the culture in which the specific music emerged (Susino & Schubert, 2017). This process of recognizing emotion in music is influenced by the stereotyping filter of the listener (Susino & Schubert, 2017). Because some nonmainstream music preferences, for example Hip-hop, are stereotyped as music with negative and problematic subcultures, listening to these music genres is related with recognizing negative emotions in music (North & Hargreaves, 2006). Because of these stereotypes and the consequences of these stereotypes, adolescents who prefer and listen to nonmainstream music have a lower life satisfaction.

Another theory that can explain the difference in life satisfaction between adolescents who prefer nonmainstream music and adolescents who prefer mainstream music is the Differential Emotions Theory. Music is capable of producing specific emotional effects for the listener (Scherer & Zentner, 2001). Consequently, listening to sad music, for example Classical music, induces more specific emotions of sadness. Listening to happy music, on the other hand, like Pop/mainstream music, induces more happy feelings (Lundqvist et al., 2009).

The Mediating Role of Having More Online Friends and the Quality of Friendships

This research aimed to examine the sociological underlying mechanisms for the relationship between music preference and life satisfaction. Firstly, it was hypothesized (H2) that adolescents who prefer nonmainstream music are more likely to have more online friends than adolescents who prefer mainstream music. Results showed that there was no significant relationship between music preference and having more online friends.

There are two possible methodological explanations for this finding. Firstly, the Cronbach's Alpha of the variable having more online friends was relatively low ($\alpha = 0.65$), which means that the reliability of this scale was acceptable but not very high. The second possible methodological explanation is the operationalization of the variable having more online friends. This variable was measured with three items: How often do you have online contact with good friends?, How often do you have online contact with friends from your

larger circle of friends?, How often do you have online contact with friends who you know from the Internet?. These questions are more focused on the online communication with friends rather than answering the question if adolescents have friends who they met on the Internet. So, it is possible that the questions used to measure the variable of having more online friends did not measure the intended concept of having more online friends.

Another possible explanation for this finding lies in the step that virtual friends take to move their virtual friendship to a face-to-face basis (McKenna et al., 2002). Adolescents who form close relationships online tend to integrate these relationships into their non-Internet social life in several steps. With every step, the relationship becomes more intimate. So, when adolescents form an intimate friendship online, it is very likely that this friendship will transform into an “offline” friendship whereby the contact also includes face-to-face interaction (McKenna et al., 2002). This research focused mainly on the friendships that existed exclusively on the basis of online communication. That’s why, it is possible that participants who originally had online formed friendships but nowadays with face-to-face interaction, did not belong to the category of participants who scored high on the degree of having more online friends at the time of the study.

Secondly, it was hypothesized (H3) that higher levels of online friendships are negatively related to the quality of friendships. Results showed that there was a significant relation between having more online friends and the quality of these friendships. Contrary to Hypothesis 3, this relationship was positive. As explained earlier, it is possible that the questions used to measure the variable of having more online friends did not measure the intended concept of having more online friends. In this research, the items were more focused on the degree of having online communication with friends.

Besides the methodological explanation, there could also be a theoretical explanation for this finding. Hu, Wood, Smith and Westbrook (2004) argue that online communication, specifically computer-mediated communication, promotes rather than hinders intimacy between friends. Sheer (2011) also argues that specifically messaging, so primarily text-based, contributes to the growth of close friendships. Online texting creates a safe environment for adolescents to exchange deep thoughts with each other, and consequently, contributes to the quality of friendships (Sheer, 2011). In line with the findings of this research, these theories argue that having online friendships can have a positive influence on the quality of friendships.

Finally, it was hypothesized (H4) that lower quality friendships are negatively related to life satisfaction. Results showed that there is indeed a significant relationship between

quality of friendships and life satisfaction. Adolescents who have low quality friendships are more likely to have a lower life satisfaction than adolescents who have high quality friendships. These findings are in line with literature that argues that enjoying a high quality and close friendship is positively related to life satisfaction (Demir et al., 2007).

Strengths, Limitations and Future Directions

This study has multiple strengths. First, the sample of this research is representative for the Dutch population of adolescents. The sample consisted of participants with a range of different ages and school levels. Besides this, articles and data used to substantiate this study were varied and trustful.

This study also has some limitations which provide important insights for future research on this topic. Firstly, this study did not make a distinction between the different genres for nonmainstream music. The four genres, Hip-hop/R&B, Gothic/Emo, Classical music and Dance/Techno/Hardstyle were taken together as one variable; nonmainstream music. Future research should test every music preference independently, so that more insights in the relationship between music preference and life satisfaction can be gained. Another limitation is the unequal division of respondents who prefer mainstream music (n=1274) and respondents who prefer nonmainstream music (n=177). Future research should try to have a more equal division between these two groups.

Secondly, future research should operationalize having more online friends differently. Instead of focusing on the online communication that adolescents have with their friends, it is considered important to focus more specifically on the friendships that were made on the Internet. If this variable is operationalized differently, future research will gain more insights in the relationship between music preference and having more online friends. Future studies will also gain more insights in the relationship between having more online friends and the quality of friendships.

Finally, it is recommended that future research should test the sociological perspective on the relationship between music preference and life satisfaction from a different angle. Friendships may still be an important concept that influences the relationship between music preference and life satisfaction, but it is important to consider other sociological concepts, such as peer acceptance, that may also influence this relationship.

Conclusion

Overall, this study showed evidence for a significant relation between music preference and life satisfaction. This study examined the possible underlying mechanisms, namely having more online friends and the quality of friendships, for the relationship between

music preference and life satisfaction. Results showed that there is no evidence for these underlying mechanisms. Future research should focus on gaining more insights in these underlying mechanisms that could explain the finding that adolescents who prefer nonmainstream music are more likely to have a lower life satisfaction than adolescents who prefer mainstream music.

References:

- Abe, J. A. A., & Izard, C. E. (1999). The developmental functions of emotions: An analysis in terms of differential emotions theory. *Cognition & Emotion, 13*(5), 523-549.
<https://doi.org/10.1080/026999399379177>
- Antonucci, T. C. (2001). Social relations: An examination of social networks, social support, and sense of control. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging* (pp. 427–453). Academic Press.
- Aristotle (1984). The complete works of Aristotle: Revised Oxford translation. In J. Barnes (Ed.). Princeton: Princeton University Press.
- Bargh, J. A., & McKenna, K. Y. (2004). The Internet and social life. *Annual Reviews Psychology, 55*, 573-590. <https://doi.org/10.1146/annurev.psych.55.090902.141922>
- Baym, N. K., & Ledbetter, A. (2009). Tunes that bind? Predicting friendship strength in a music-based social network. *Information, Communication & Society, 12*(3), 408-427.
<https://doi.org/10.1080/13691180802635430>
- Boer, D., Fischer, R., Strack, M., Bond, M. H., Lo, E., & Lam, J. (2011). How shared preferences in music create bonds between people: Values as the missing link. *Personality and Social Psychology Bulletin, 37*(9), 1159-1171.
<https://doi.org/10.1177/0146167211407521>
- Croom, A. M. (2015). Music practice and participation for psychological well-being: A review of how music influences positive emotion, engagement, relationships, meaning, and accomplishment. *Musicae Scientiae, 19*(1), 44-64.
<https://doi.org/10.1177/1029864914561709>
- Demir, M., & Özdemir, M. (2010). Friendship, need satisfaction and happiness. *Journal of Happiness Studies, 11*(2), 243-259. <https://doi.org/10.1007/s10902-009-9138-5>
- Demir, M., Özdemir, M., & Weitekamp, L. A. (2007). Looking to happy tomorrows with friends: Best and close friendships as they predict happiness. *Journal of Happiness Studies, 8*(2), 243-271. <https://doi.org/10.1007/s10902-006-9025-2>

- Demir, M., & Weitekamp, L. A. (2007). I am so happy'cause today I found my friend: Friendship and personality as predictors of happiness. *Journal of Happiness Studies*, 8(2), 181-211. <https://doi.org/10.1007/s10902-006-9012-7>
- HBSC. (2018, 19 november). Uitvoering van het onderzoek. *HBSC-Nederland*. <https://hbsc-nederland.nl/about/het-onderzoek/>
- Hu, Y., Wood, J. F., Smith, V., & Westbrook, N. (2004). Friendships through IM: Examining the relationship between instant messaging and intimacy. *Journal of Computer-Mediated Communication*, 10(1), JCMC10111. <https://doi.org/10.1111/j.1083-6101.2004.tb00231.x>
- Klitzman, R. (2006). From “male bonding rituals” to “suicide Tuesday”: A qualitative study of issues faced by gay male ecstasy (MDMA) users. *Journal of Homosexuality*, 51(3), 7 – 32. https://doi.org/10.1300/J082v51n03_02
- Kruse, H. (1993). Subcultural identity in alternative music culture. *Popular Music*, 12(1), 33-41.
- Lundqvist, L. O., Carlsson, F., Hilmersson, P., & Juslin, P. N. (2009). Emotional responses to music: Experience, expression, and physiology. *Psychology of Music*, 37(1), 61-90. <https://doi.org/10.1177/0305735607086048>
- Martin, G., Clarke, M., & Pearce, C. (1993). Adolescent suicide: Music preference as an indicator of vulnerability. *Journal of the American Academy of Child & Adolescent Psychiatry*, 32(3), 530-535.
- McKenna, K. Y., Green, A. S., & Gleason, M. E. (2002). Relationship formation on the Internet: What's the big attraction?. *Journal of social issues*, 58(1), 9-31.
- Miranda, D., & Claes, M. (2009). Music listening, coping, peer affiliation and depression in adolescence. *Psychology of Music*, 37(2), 215-233. <https://doi.org/10.1177/0305735608097245>
- North, A. C., & Hargreaves, D. J. (2006). Problem music and self-harming. *Suicide and Life-Threatening Behavior*, 36(5), 582–590.
- Saarikallio, S., & Erkkilä, J. (2007). The role of music in adolescents' mood regulation. *Psychology of Music*, 35(1), 88-109. <https://doi.org/10.1177/0305735607068889>
- Scherer, K.R., & Zentner, M.R. (2001). Emotional effects of music: Production rules. In P.N. Juslin & J.A. Sloboda (Eds.), *Music and emotion: Theory and research* (pp. 361–392). Oxford University Press.

- Selfhout, M. H., Branje, S. J., ter Bogt, T. F., & Meeus, W. H. (2009). The role of music preferences in early adolescents' friendship formation and stability. *Journal of Adolescence*, 32(1), 95-107. <https://doi.org/10.1016/j.adolescence.2007.11.004>
- Sernoe, J. (2005). "Now We're on the Top, Top of the Pops": The Performance of "Non-Mainstream" Music on Billboard's Albums Charts, 1981–2001. *Popular Music and Society*, 28(5), 639-662. <https://doi.org/10.1080/03007760500142670>
- Sheer, V. C. (2011). Teenagers' use of MSN features, discussion topics, and online friendship development: The impact of media richness and communication control. *Communication Quarterly*, 59(1), 82-103. <https://doi.org/10.1080/01463373.2010.525702>
- Sigg, N. (2009). *An investigation into the relationship between music preference, personality and psychological wellbeing* (Doctoral dissertation, Auckland University of Technology).
- Stets, J. E., & Burke, P. J. (2000). Identity theory and social identity theory. *Social Psychology Quarterly*, 224-237. <https://doi.org/10.2307/2695870>
- Susino, M., & Schubert, E. (2017). Cross-cultural anger communication in music: A framework towards a stereotype theory of emotion in music. *Musicae Scientiae*, 21(1), 60-74. <https://doi.org/10.1177/1029864916637641>
- Susino, M., & Schubert, E. (2019). Negative emotion responses to heavy-metal and hip-hop music with positive lyrics. *Empirical Musicology Review*, 14(1-2), 2-15. <http://dx.doi.org/10.18061/emr.v14i1-2.6376>
- Trimbos Instituut. (2020). Geluk onder Druk?. <https://www.trimbos.nl/kennis/geluk-onder-druk-onderzoek-naar-mentaal-welzijn-jongeren>
- Vallor, S. (2012). Flourishing on facebook: virtue friendship & new social media. *Ethics and Information Technology*, 14(3), 185-199. <https://doi.org/10.1007/s10676-010-9262-2>
- Veenhoven, R. (1996). *The study of life-satisfaction*. Eötvös University Press. <http://hdl.handle.net/1765/16311>
- Williams, J. P. (2006). Authentic identities: Straightedge subculture, music, and the internet. *Journal of Contemporary Ethnography*, 35(2), 173-200. <https://doi.org/10.1177/0891241605285100>

Appendix A. Interdisciplinarity

The first level of Bronfenbrenner's ecological model is the self. This is an important level within this research. The independent variable, namely music preference, is something inside the self. Also the dependent variable, namely life satisfaction, is a variable within the first level of the ecological model. Life satisfaction can be influenced by all the different levels of the ecological model, but within this research the microsystem is mostly important. It is examined within this research if having more online friends and the quality of friendships influence an individual's life satisfaction.

Within this research the meso level is not really important. This level includes the relationships between different people in the environment of the individual. Those relationships are not important in this research, because there is no interest in how different friends of the individual are getting along with each other. On the other hand, the macrosystem is important in this research. The macrosystem includes the larger social and cultural system. Researchers explain that different music genres can be seen as different subcultures (Miranda & Claes, 2009). So, there are subcultures of different music preferences in the larger social and cultural system. Also, the use of Internet is an important factor both for the macrosystem and the chronosystem, the last level of the ecological model. The chronosystem explains the role of time in the ecological model. In nowadays time, making friends online and meeting new people online is very easy. That's why the role of time is important in this research.

Two different social sciences are mostly important in this research. The self can mostly be explained by psychological theories. A lot of researches show that taste in different music genres can be explained by (social) psychology (Croom, 2015; Saarikallio & Erkkilä, 2007). The different kinds of friends, and the importance of the microsystem, can mostly be explained by sociological theories. So, both psychology and sociology are important for this research.

Appendix B. Data use contract

Utrecht, 2020

This letter constitutes formal confirmation of the fact that the data from the Utrecht University Youth Studies 2020/2021 have been made available to Nomie Sulkers 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 Gerdien van Eersel.

Nomie Sulkers 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: To what extent is the relationship between music preference and life satisfaction explained by having more online friends and the quality of friendships?

The following variables will be used:

Dependent variable: Life satisfaction (Q52)

Independent variable: Music preference (Q92)

Other variables: Having more online friends (Q44), Quality of friendships (Q43), Sex (Q2)

No report based on the data from the project entitled “Music, the great communicator” may be made public, unless permission has been obtained in advance from the Project Coordinator for “Music, the great communicator”.

After the expiration of this contract, dated 8-31-2021, Nomie Sulkers shall delete the HBSC data.

Dates and signature: 13th January 2021

Name of student: Nomie Sulkers



Name of Project Coordinator: Gerdien van Eersel