

# “You’re not alone”: Music as a source of consolation among adolescents and young adults

Psychology of Music

1–17

© The Author(s) 2016

Reprints and permissions:

sagepub.co.uk/journalsPermissions.nav

DOI: 10.1177/0305735616650029

pom.sagepub.com



Tom F. M. ter Bogt<sup>1</sup>, Alessio Vieno<sup>2</sup>, Suzan M. Doornwaard<sup>1</sup>, Massimiliano Pastore<sup>2</sup> and Regina J. J. M. van den Eijnden<sup>1</sup>

## Abstract

This study aimed at determining whether adolescents and young adults use music as an agent of consolation when dealing with daily sorrow and stress. We furthermore tested whether three aspects of music listening, i.e., the music itself, its lyrics, and experiences of closeness to artists and fans, were experienced as comforting. Third, we explored whether consolation through music listening was related to music use and psychological problems. Overall, 1,040 respondents, age 13–30 years ( $M = 20.3$ , 70.7% female), responded to items measuring listening hours, music importance, music preferences, positive and negative affects elicited by music (PANAS), internalizing and externalizing problems, and consolation through music. Slightly over 69% reported that they (definitely) use music as a source of consolation. Furthermore, female respondents and respondents with higher levels of anxiousness/depression and lower levels of aggression sought consolation by music more often. The same result emerged for respondents with a preference for chart pop music, for those who found music important, and for those with stronger emotional reactions to music. Music’s consoling effects were reported as resulting particularly from the sound and texture of the music itself, from attribution of personal meaning to music’s lyrics, and, to a lesser extent, from perceptions of closeness to artists and other listeners.

## Keywords

*adolescents, comfort, consolation, coping, music, music effects, solace*

<sup>1</sup>Department of Interdisciplinary Social Sciences, Utrecht University, The Netherlands

<sup>2</sup>Department of Developmental and Social Psychology, University of Padova, Italy

## Corresponding author:

Tom ter Bogt, Department of Interdisciplinary Social Sciences, Utrecht University, 3584 CS Utrecht, The Netherlands.

Email: t.f.m.terbogat@uu.nl

Composers and musicians have always been aware of music's mood enhancing qualities. A large body of music is specifically created and played to get listeners in a good mood and enliven festive activities. However, music not only deals with the happy side of life, in fact, some musical repertoires have been composed to alleviate tragedy and loss. The most significant composers in the history of Western classical music have explicitly crafted music that is intended to console. For example, Brahms in his *Ein Deutsches Requiem* quoted bible text Matthew 5:4 and stated: "Selig sind, die da Leid tragen, denn sie sollen getröstet werden" (Blessed are they that mourn, for they shall be comforted). And much of the music composed in over six decades of rock 'n' roll and its lineage regards everyday stress and disappointment. Listening to music may help adolescents and young adults cope with difficulties in life, and it may be used to regulate mood (e.g., Greenwood & Long, 2009; Saarikallio & Erkkilä, 2007; Ter Bogt, Mulder, Raaijmakers, & Nic Gabhain, 2010; Thoma, Ryf, Mohiyeddini, Ehlert, & Nater, 2012; Van Goethem & Sloboda, 2011). Mood management and coping through music listening rank among the most important functions of music listening; however, a more specific mood management process, that is, seeking consolation, is far less studied.

Following Norberg, Bergsten, and Lundman (2001) and Saarikallio (2008, 2011) we define consolation or solace as the comfort and understanding that a person receives from others, or in this specific case, from listening to music, after a loss or disappointment to the effect that physical ease or well-being is increased. In line with Saarikallio's work (2008, 2012), we conceptualize consolation as a specific type of mood management that can be functional to help cope with problems. The idea of consolation has a long history in philosophy, ranging from contemplations of Boethius in the sixth century to works of Kierkegaard (1848/2009) and Ricoeur (1969) in the 19th and 20th centuries, but it is rather understudied in the social sciences in general and music psychology specifically. Only recently, Saarikallio and Erkkilä (2007) addressed the potential consoling effects of music listening in a small qualitative Finnish study ( $N = 8$ ) and integrated items on "solace" into their Music in Mood Regulation scale (Saarikallio, 2008, 2012), but only a limited number of studies have used this instrument to explore solace further. To address this gap in the literature, the current study aims to describe the prevalence of music listening for the purpose of consolation, specify music aspects that are believed to yield consolation, and additionally map factors predicting the use of music as a source of consolation.

### *Consolation in theory and empirical research on humans and other primates*

Neither the theme of consolation, nor its equivalents – comfort, solace – are overly present in the social scientific literature (Klass, 2013). However, a specialized body of qualitative research in the hermeneutic tradition conceptualized this theme (Rasmussen, Sandman, & Norberg, 1997; Söderberg, Gilje, & Norberg, 1999). Norberg et al. (2001) analyzed interviews with 18 professionals for whom offering consolation is a part of their work experience (e.g., clergymen, district visitors, funeral workers, psychologists, social workers). The authors proposed a model of consolation in which shared *openness* to discuss loss or a severe condition can result in an intimate, respectful *dialogue* between sufferer and consoler. This may cause, first, a shift in the perspective whereby the sufferer's condition is understood within a pattern of *meaning*, and second, a shift from loneliness to *belonging and communion*. Norberg et al.'s study (2001) suggested another effect of the dialogue between the afflicted person and the consoler, and described it in rather poetic and religious terms, as *transcending the self* and getting in touch with the sacred dimension of being. Meaningfulness, communion, and transcendence result in the acceptance of the unacceptable and, subsequently, in *consolation*.

While only a limited body of work addressed consolation among humans, this phenomenon caught the special attention of researchers observing animal behavior. Studies among non-human primates revealed that consolation is a distinct behavioral episode, though interactions among apes obviously rely more on non-verbal cues and bodily contact than on the expression of meaning through words. As early as 1979, De Waal and Van Roosmalen noted that chimpanzee victims of aggression sought consolation from their peers. The behavioral interactions labeled by De Waal and Van Roosmalen as consolation revolved around “touching”, “submissive vocalizations”, and “embracing”. Acts of consolation were further shown to positively affect the state of arousal of the afflicted animal and reduce its distress. Similar behavioral episodes were reported in other chimpanzee groups, both captured and wild, as well as in bonobos and gorillas. Comparable patterns were also observed in dogs, wolves, and ravens (for a review, see Romero, Catellanos, & De Waal, 2010).

In sum, both hermeneutic studies among humans and ethological studies among non-human primates point in the same direction, though they differ largely in their theoretical basis and choice of subjects. They suggest that consolation is relevant in situations of loss and deception that cannot be undone, but that these situations become more bearable for the afflicted when others are open and empathic to their situation and show feelings of compassion. Thereby, togetherness is created, resulting in alleviated mood and feelings of being consoled. In the following sections, we will explore whether this pattern is also relevant in situations in which adolescents and young adults use music for mood regulation, and more particularly, consolation.

### *Music can regulate emotions and help cope with internalizing and externalizing problems*

The most important function of music listening is mood management (Christenson & Roberts, 1998; Knoblauch, 2006; Knoblauch & Zillmann, 2002; Schäfer, Sedlmeier, Städtler, & Huron, 2013). Adolescents listen to their music of choice in a conscious attempt to control or improve their affective state or to get into the mood that fits the occasion or their personal situation. They tend to listen to music that is emotionally congruent with their current emotional states in order to amplify or change that state (McFerran, Garrido, O’Grady, Grocke, & Sawyer, 2014; Thoma et al., 2012). Music has been shown to play a role in promoting happiness, but a far broader range of affects is instigated through music listening (Randall, Rickard, & Vella-Brodrick, 2014). Listeners may also feel or want to become excited, awake, energetic, calm, melancholic, or nostalgic (Lonsdale & North, 2011; Saarikallio & Erkkilä, 2007). Affect regulation through music listening blends in with more general mood regulation strategies (Van Goethem & Sloboda, 2011).

Because of music’s mood-altering qualities, it can be used as a tool to cope with challenges and problems. For instance, listening to music can alleviate feelings of loss, sadness, and loneliness, and it helps one to calm down and to relax (Avery, 1979; Kurdek, 1987; Shiffriss, Bodner, & Palgi, 2014). Moreover, adolescents may listen to their preferred music when they are angry or when they need to vent confusing emotions (Labbé, Schmidt, Babin, & Pharr, 2007; Sharman & Dingle, 2015). Music can even help to cope with longer lasting mood disturbances, such as depression (Miranda & Claes, 2009; Miranda, Gaudreau & Morizot, 2010). Therefore music listening is relevant particularly for adolescents and young adults facing internalizing and externalizing problems (Ter Bogt et al., 2010).

As most people are aware of and value music’s mood enhancing qualities, one would expect that they would particularly prefer self-identified “happy” music. Paradoxically, many people

also listen to self-identified “sad” music and state that this is satisfying (Chen, Zhou & Bryant, 2007; Hunter, Schellenberg, & Griffith, 2011; Saarikallio, 2011). Listening to sad music may induce feelings of connectedness to loved ones and function as an imaginary friend (Van den Tol & Edwards, 2011). Hence, not only happy and joyful music, but also sad music is important for alleviating mood and coming to terms with negative, distressing events.

Though music may be of utmost importance particularly in adolescence, (emerging) adults also refer to music for its mood enhancing and coping qualities (Saarikallio, 2011). Ter Bogt et al. (2010) concluded that using music for mood regulation and coping is a widely used strategy that hardly differentiates between broad demographic categories, including gender, age, and educational level. Nevertheless, highly involved listeners are more likely to achieve mood regulation. Mood regulation and coping seem to be particularly relevant for respondents facing internalizing or externalizing problems.

### *Consolation through music*

As music, even sad music, enhances mood and helps individuals cope with problems, the study of a specific mood management strategy seems obvious: finding consolation through listening to music. Kate Hevner already recognized the potential soothing qualities of music in her seminal 1936 study, where she classified expressive elements of different types of music into eight categories. Musical expression of consolation was categorized together with affective values such as “calm”, “leisurely”, “lyrical”, “ponderous”, “quiet”, “serene”, “satisfying”, and “tranquil”. However, Hevner did not elaborate on this classification, nor did other researchers. In the as-of-yet most extensive review of studies on different functions of music listening (Schäfer et al., 2013), consolation, comfort, or solace through music were not listed. However, in their own subsequent, comprehensive empirical investigation of 129 different functions of music listening, the authors added one item addressing consolation: “Music gives me comfort when I’m sad”. Schäfer et al.’s study aimed at finding a structure in various functions of music listening proposed by decades of studies in this field, rather than study only one of them. So no additional analysis of this item or its predictors was reported.

Only recently, Saarikallio (2008, 2012) introduced the concept of solace as one of seven distinct emotion regulation strategies functional when listening to music. Her measure of solace contained six items measuring feelings of being accepted and understood through music listening when feeling sad and troubled. Among adolescents ( $N = 1,515$ ), seeking solace was significantly related to more general mood regulation abilities, such as Reappraisal (cognitive reinterpretation of emotion-eliciting information; Gross & John, 2003) and Emotional Attention (the inclination to observe one’s feelings carefully; Salovey, Mayer, Goldman, Turvey, & Palfai, 1995). Based on a second study among a sample of young adults ( $N = 526$ ), Saarikallio shortened her instrument and retained only three solace items in the Brief Music in Mood Regulation scale (B-MMR). In the original study, older adolescents (15–20 year olds) used music more frequently for mood regulation compared to two younger groups, and across adolescent age groups, girls tended to do this more often compared to boys. However, in the second study, no age or gender differences were found, implying that mood regulation through music increases during adolescence but stabilizes in young adulthood, and that men and women reach similar levels of emotion regulation. Mood regulation through music was also more likely to be observed among respondents who listened to the music more often and among those with higher ratings on the importance of music in their lives. In a third study, Saarikallio, Nieminen, and Brattico (2013) found that seeking solace was particularly relevant for respondents sensitive to the emotional tone of music.

As of yet, the MMR and B-MMR have not been used extensively in other research. However, Thomson, Reece, and Di Benedetto (2014) reported that overall, the MMR scale predicted psychopathology in a sample of Australian university students, but interestingly, no relation appeared between the MMR subscale of seeking solace on the one hand and internalizing problems such as depression, anxiety and stress on the other.

In conclusion, the study of music's consoling qualities has been considered more in depth only recently, leaving much room for exploration. Further inquiries should be conducted to determine whether consolation operates in different cultural contexts as well as how consolation affects people's everyday lives and relates to age, personality, music factors, and health outcomes (Saarikallio, 2012). The current study attempted to examine these issues in more detail.

Both Saarikallio's original scale and its abbreviated version in fact contained two slightly different types of items. In the original scale, four items measured the inclination to seek consolation through music when feeling troubled (e.g., "I listen to music to find solace when worries overwhelm me", "When I'm feeling sad, listening to music comforts me"). Two items tapped into the way in which this comforting effect is brought about ("When everything feels bad music understands and comforts me"). In the abbreviated scale, the three aforementioned items were retained. Our study intends to discern between the *degree* to which people seek music for consolation, and which *aspects* of music listening bring about the consolation effect. Therefore both aspects are included in our measures.

### *The present study: Model and hypotheses*

The aim of this study was to answer three fundamental research questions:

1. Do adolescents and young adults use music as a medium for consolation?
2. Which aspects of music listening are perceived as consoling?
3. Which sociodemographic characteristics and personal and music factors enhance consolation through music listening?

Based on the review of the literature above, it can be proposed that music listening is universal and that listeners seek music's positive effects on mood. We therefore expected that:

*Hypothesis 1: Most respondents will indicate that they use music as an agent of consolation.*

As noted in Norberg's theoretical model and empirical studies among primates, close contact, empathy, meaningfulness, and togetherness are defining aspects of social interactions that result in consolation. Although the qualities and effects of social interactions between pairs of individuals or non-human primates may not be transposable to the interaction of a single listener with his or her music, there may be structural similarities. We propose that feelings of consolation emerge, first, from the perception that lyrics are relevant to the listener and that they address similar disappointments, loss, or distress that the listener is facing. In other words, lyrics are meaningful to the listener and form a sign of empathy in the sense that the listener believes the artist "knows" and "understands" what he or she is experiencing. The listener imagines that his or her own sorrows are reflected in the texts. Second, feelings of consolation may emerge from a perception of togetherness. Through both listening to the music itself and decoding the lyrics, the listener may experience a feeling of belonging; he or she is not alone, others

are in the same situation, or they have faced similar problems. The listener may identify with the artist or the community of other fans, experience oneness, togetherness, and feel embraced by the warmth of their virtual presence. Third, feelings of consolation may result from perceiving the music itself as comforting. Though our study does not focus on the structural qualities of the music that yield consolation, we address respondents' perceptions of music itself as consoling. Thus, we propose that:

*Hypothesis 2: Consolation by music operates through at least three distinct processes: the attribution of personal meaning to lyrics; perceptions of closeness to and oneness with the artist and other listeners; and the sound and texture of the music itself.*

As noted above, using music for mood regulation is a widely dispersed phenomenon not indicative of broad, distinct demographic groups defined by gender, age, and education level. Some results have indicated that among younger adolescents, girls are more likely to use music for consolation, but in older age groups, this difference was no longer present. We therefore expect that:

*Hypothesis 3: There will be no or only small differences in the degree to which music is used as an agent of consolation by gender, age, or educational background.*

Studies have indicated that young people with internalizing and externalizing problems may use music to help cope with their problems or to vent their aggression. However, one study that focused on solace indicated that respondents with depression, anxiety, or stress did not seek comfort through music more often compared to those without these problems. Therefore, we propose:

*Hypothesis 4: There will be a positive relation between levels of internalizing or externalizing problems and using music as an agent of consolation. Alternatively, this relation will be non-existent.*

In general, more involved listeners use their favorite medium more often to enhance mood and cope with problems. The same relation was found for seeking solace in music.

*Hypothesis 5: Respondents who are musically more involved and show strong emotional reactions to music will use music as an agent of consolation more often compared to less involved and less emotionally affected respondents.*

Avid fans may use music for consoling effects more frequently. For example, Christenson and Roberts (1998) noted that fans of rock and hip-hop are dedicated to their artists and show greater interest in lyrics. Ter Bogt et al. (2010) concluded that dance and hip-hop fans are particularly highly involved listeners. It is, however, unclear whether preferences for specific styles of music indicate consolation over and above the importance attributed to music. Hence, we explored whether preferences for five major types of music, Pop (e.g., chart pop), Rock (e.g., heavy metal, goth), Afro-American/-Caribbean (e.g., hip-hop, reggae), Dance (e.g., trance, techno), and Highbrow music (e.g., classical music), predicted consolation through music. However, we did not predict the direction of association.



As this study is the first to examine the aspects of music that are perceived as consoling, we did not formulate a specific hypothesis on the relations between these predictors and the different aspects of consolation through music.

## Method

### Sample

The respondents completed five waves of the Qrius Switch-On project. Qrius is a commercial youth research institute located in Amsterdam, the Netherlands, and since 1979, it has been conducting large scale, nationally representative investigations on reading behavior and media use, among others. The Switch-On project involved collaboration between Utrecht University, Qrius Research, and MTV Benelux. Respondents who participated in Switch-On were assessed at time intervals of six months on issues such as media preferences, political attitudes, substance use, and problem behavior. Respondents entered a draw for small prizes, such as CDs, and a savings system granting them €10.00 after participating in all of the five study waves. As the survey did not entail issues that can affect respondents' health or mental health, and did not regard sensitive issues such as drugs and sex, at the time of data gathering no permission from the Department of Social Sciences ethical board (EB) was needed. However, active parental consent was obtained for all minors involved in this panel. As a member of the MOA (Center for Information Based Decision Making & Marketing Research) Qrius Research adheres to data collection, storage, and privacy protection procedures in accordance with the international code for market research and privacy protection, drawn up by the European Association for Market Research (ESOMAR), in cooperation with the International Chamber of Commerce (ICC) ([www.moaweb.nl](http://www.moaweb.nl)). In this research all ethical rules were adhered to. Respondents were asked for their consent and could withdraw from the survey at any moment; data collection, storage, and analysis followed procedures respecting their privacy.

The panel used for this research consisted of 1,079 respondents who participated in the third wave of this study, which contained additional questions on the consoling qualities of music listening (age 13–30 years,  $M = 20.3$ ,  $SD = 3.61$ , 70.7% female, 16.4% ethnic minority status). Overall, 39 respondents had missing values on the item that measured consolation. Hence, we included 1,040 respondents in our model predicting the extent to which listeners use music for consolation. Then, 59 respondents who indicated that they never use music for consolation were also removed from our model which targeted the correlates of different aspects of music listening that may induce the consoling effect, leaving 981 respondents in our final analysis.

### Measures

*Background characteristics: Gender, age, and level of education.* Respondents were asked to indicate their gender and age. Two items assessed their current level of education (for school-attendees) or the highest education achieved (for those who had left school). Respondents were divided into two groups: those with vocational education (low and middle vocational track;  $n = 653$ ) or high education (high vocational and academic track;  $n = 328$ ).

*Anxious/depressed behavior and aggression.* The Nijmegen Problem Behavior List (NPBL) was used to assess *Anxious/Depressed behavior* and *Aggression*. The NPBL is formulated to assess internalizing and externalizing problem behavior in children and adolescents in a non-clinical setting,

and it has been validated as a self-report measure (De Bruyn, Vermulst, Houtmans, & De Meyer, 1997). Respondents were asked to indicate on 5-point Likert-scales, ranging from 1 ("not at all true") to 5 ("completely true"), the extent to which each item applied to them. *Anxious/Depressed behavior* was measured with 4 items,  $\alpha = .84$ . A sample item is, "I feel sad and unhappy"; *Aggression* was also measured with 4 items,  $\alpha = .76$ . A sample item is, "I fight a lot".

**Hours listening.** Respondents were asked to indicate how much time they spent listening to music daily. Response categories were 1 (" $< 2$  hrs"), 2 ("2–4 hrs"), 3 ("4–6 hrs"), 4 ("6–8hrs"), and 5 (" $> 8$  hrs").

**Music importance.** This measured music involvement on a 5-point Likert-type scale ranging from 1 ("does not apply at all") to 5 ("applies completely") and comprised four items: "I am always looking for new music"; "I know more about music than my peers"; "I influence my friends with my choice of music"; "I can't live without music" ( $\alpha = .69$ ).

**Emotions during listening: PANAS.** Respondents were asked to rate the degree to which they experienced positive and negative emotions while listening to music on 5-point Likert-type scale ranging from 1 ("does not apply at all") to 5 ("applies completely"). Emotional descriptors were taken from the Positive Affect/Negative Affect Scale (PANAS) (Watson, Clark, & Tellegen, 1988), such that *PANAS positive affect* comprises positive descriptors ("active", "strong", "happy", "connected", "inspired", "enthusiastic", "energetic", "proud";  $\alpha = .82$ ) and *PANAS negative affect* comprises negative descriptors ("afraid", "sad", "lonely", "aggression", "anger", "hate";  $\alpha = .84$ ) of emotion.

**Music preferences.** Eighteen musical genres were rated on a 5-point Likert-scale ranging from 1 ("do not like at all") to 5 ("like very much"). The sixth answering category identified listeners who were not familiar with a particular genre. Response option 6 = "do not know this type of music" was treated as a missing value and imputed using the Relative Means Substitution approach developed by Raaijmakers (1999). Earlier studies have shown that a multitude of genres can be reduced to a smaller number of overall styles (cf. Delsing, ter Bogt, Engels, & Meeus, 2008). Preferences for genres *Top 40* (chart-based music), *Ballads*, and *Dutch pop* were related and subsumed under the style *Pop* ( $\alpha = .70$ ). *Rock* style comprised *Rock*, *Heavy metal*, *Alternative*, *Punk*, and *Gothic* genres ( $\alpha = .87$ ). The third style, *Afro-American/Caribbean*, comprised *Rap/Hip-Hop*, *R&B*, *Soul*, *Dancehall*, and *Reggae* ( $\alpha = .76$ ). Preferences for different types of electronic dance music were listed under *Dance: Dance*, *Trance*, *Techno*, *Hardhouse*, and *Electro* ( $\alpha = .85$ ). *Highbrow* was constructed based on the mean score preferences for *Classical music*, *Jazz*, *Singer-songwriter* ( $\alpha = .73$ ).

**Music consolation.** The first item assessed the extent to which respondents use music as a source of consolation. The item header read, "The statements below regard different uses of music. Can you indicate how you use music? Please indicate the degree to which the following applies to you". Item stated, "I use music as a source of comfort". Response categories ranged from 1 ("not at all") to 5 ("applies completely"). This item was treated as an ordinal variable in subsequent analysis. Furthermore, nine items, clustered into three scales, measure three different aspects of consolation through music. All items and factor loadings are listed in Table 1. Respondents had to indicate the degree to which different aspects of music, lyrics, and music-induced experiences of oneness and togetherness with artists console them. The response options ranged from 1 ("does not apply at all") to 5 ("applies completely"). Confirmatory Factor Analysis (CFA; Diagonally Weighted Least Squares procedure) was used to test whether items



**Table 1.** Confirmatory factor analysis of three aspects of music listening for consolation.

	Factor		
	1	2	3
<b>1. Consolation by lyrics</b>			
... by the lyrics to the music	.933		
... because the content of the song is so appealing to me	.922		
... because it seems the artist is singing precisely about how I'm feeling	.739		
<b>2. Consolation by oneness/togetherness</b>			
... because I feel one with my favorite artist		.755	
... because I'm sure that other fans feel the same		.902	
... because I feel one with all other people who love this music		.822	
<b>3. Consolation by music itself</b>			
... by the music itself			.782
... by the whole atmosphere of the song			.894
... by how the music sounds			.855

Note: CFI = 0.97, NNFI = 0.95, RMSEA = 0.14. Non-visible factor loadings were fixed to 0.

measuring different aspect of consolation loaded on the three hypothesized factors. The results supported our expectations. The fit indices of the CFA showed a satisfying fit (CFI = .97, NNFI = .95, RMSEA = .14). The reliabilities of the three different aspects of consolation were good. *Consolation by lyrics* comprised three items,  $\alpha = .84$ ; *Consolation by oneness/togetherness*, three items,  $\alpha = .81$ ; *Consolation by music*, three items,  $\alpha = .82$ .

### Statistical analysis

The R (R Development Core Team, 2012) package lavaan (Rosseel, 2012) was used to analyze the models and to estimate parameters. In the first step, we evaluated the factorial structure of the three aspects of music listening that offer consolation using a CFA (see above). Following the evaluation of the factorial properties, we computed the factor scores of each measure using the CFA estimated parameters.

The pattern of relationships specified above, with background characteristics, internalizing and externalizing problems, and music factors as predictors, was then examined in two analyses. The first regression analysis was conducted with all respondents ( $N = 1,040$ ), with level of music listening for consolation as the dependent variable. To evaluate the adequacy of the model, we considered the  $R^2$  of the outcome. Overall, 59 respondents indicated that they never use music as a source of consolation, and they were removed from further analysis. The second analysis conducted with 981 respondents consisted of a regression analysis with the three aspects of consolation as outcomes. It used the factor scores as endogenous observed variables. To evaluate the adequacy of the model, we considered the  $R^2$  of each endogenous observed variable. As this study entails a large group of respondents, we set the criterion for the significance of associations or group differences at  $p < .01$ .

### Results

Respondents definitely use music for consolation. Most adolescents (69.8%) and young adults (69.2%) indicated that they use music as a source of consolation. Furthermore, both females

**Table 2.** Means and standard errors of level of consolation and three aspects of consolation by background characteristics.

	Consolation		... by lyrics		... by oneness & togetherness		... by the music itself	
<b>Gender</b>								
Boys	3.45 <sup>a</sup>	(.057)	3.41	(.055)	2.15 <sup>a</sup>	(.051)	3.91	(.042)
Girls	3.78 <sup>b</sup>	(.033)	3.71	(.034)	1.94 <sup>b</sup>	(.032)	3.98	(.024)
<b>Age</b>								
13–18 years old	3.71	(.051)	3.63	(.052)	2.09	(.050)	3.99	(.035)
18–30 years old	3.67	(.035)	3.62	(.035)	1.96	(.032)	3.94	(.026)
<b>Education</b>								
Vocational training	3.71	(.035)	3.61	(.036)	1.87 <sup>a</sup>	(.031)	4.00	(.025)
Higher secondary education	3.63	(.050)	3.64	(.050)	2.26 <sup>b</sup>	(.052)	3.86	(.037)

Note. Scale scores range from 1–5. Column means with different superscripts refer to group differences as found in *t*-tests ( $p < .01$ ). Age: in this table collapsed into two groups: adolescents and (emerging) adults. The results in the Consolation column refer to the whole sample ( $N = 1,040$ ), results in the other three columns refer to only those respondents actually using music as a source of consolation ( $n = 981$ ).

(73.9%) and males (58.3%) as well as respondents with lower (71.6%) and higher education (65.2%) indicated that they use music as a source of consolation. Overall, 69.4% of the respondents indicated using music as a source of consolation (% not in Table). Table 2 shows that mean scores for different groups are all well above the scale mean of 3 (in a 1–5 range), with females being more inclined to seek music for consolation compared to males.

When scrutinizing the results with regard to the aspects of music that are perceived as consoling, it is interesting to note that all groups preferred consolation by lyrics and by the music itself rather than consolation through feelings of oneness/togetherness. Scores on these first two scales were higher than the scale mean of 3 while scores for consolation through oneness/togetherness were below the scale mean, ranging from 1.87 to 2.26. Two group differences were found. Boys tended to experience consolation through experienced oneness/togetherness with artists and other fans more often compared to girls. The same was true for the higher educated when compared to their peers with lower education.

Table 3 lists zero-order Spearman correlations between the modeled predictors, consolation, and the three different aspects of consolation. Seeking consolation in music was relatively strongly linked to anxious/depressed behavior and to reacting to music with high positive affect (PANAS positive). Weaker but significantly positive correlations with music consolation were found for listening hours, music importance, negative feelings when listening (PANAS negative), and preferences for different music styles, i.e., Pop, Afro-American/-Caribbean music, Rock and Highbrow, but not for Dance. A highly similar pattern of relations emerged between these factors and consolation through lyrics. Consolation through oneness/togetherness correlated relatively strongly with experiencing negative affect (PANAS negative), and consolation through music correlated relatively strongly with music importance. Consolation as such also showed strong association with two aspects of consolation: through lyrics and through music itself.

We then tested which predictors indicated both consolation overall and the three aspects of consolation (regression analyses) (see Table 4). Consolation related to gender, that is, females

**Table 3.** Spearman correlations between predictors and outcomes.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Anxious/depressed	–													
2. Aggressive	.33**	–												
3. Listening hours	-.02	-.01	–											
4. Music importance	.04	.05	.34**	–										
5. PANAS positive	.03	-.03	.13	.23**	–									
6. PANAS negative	.25**	.32**	.01	.00	-.13**	–								
7. Pop	-.05	-.06	-.12**	-.15**	.07	-.01	–							
8. Rock	.13*	.05	.13**	.17**	.14**	.12**	-.18**	–						
9. Afro-American/-Caribbean	-.06	.03	.05	.11**	.01	-.05	.22**	-.13**	–					
10. Dance	-.11**	.03	.09*	.03	.05	.00	.08	-.06	.08	–				
11. Highbrow	.03	.00	-.02	.16**	.07	.01	.02	.32**	.28**	-.04	–			
12. Consolation	.28**	-.01	.09**	.17**	.25**	.16**	.09*	.13**	.08*	-.01	.10*	–		
13. Cons. by lyrics	.23**	-.05	.09*	.13**	.29**	.16**	.19**	.11*	.13**	-.09*	.08	.44**	–	
14. Cons. by oneness/togetherness	.05	.19**	.08*	.08	.15**	.25**	.01	.04	-.03	.05	-.07	.02	.19**	–
15. Cons. by music itself	.17**	-.08	.08	.22**	.32**	-.03	.04	.19**	.02	-.07	.13**	.47**	.32**	-.08

\* $p < .01$ . \*\* $p < .001$ .

were more likely to find consolation in music compared to males. Consolation was further related to both problem scales. Anxious/depressed behavior was positively linked to consolation while aggression was negatively associated with consolation. Further positive relationships were found between music importance and strong affective reactions to music, both positive and negative (PANAS). With music importance controlled for, listening hours were no longer related to consolation, and the same result emerged for Rock, Afro-American/-Caribbean music, and Highbrow preferences. However, a preference for Pop music was uniquely related to consolation in this model. The explained variance of consolation ( $R^2 = .27$ ) indicates that our model lists a number of relevant predictors of consolation.

Table 4 further shows that important indicators of the three aspects of music eliciting consolation are found in the problem behavior realm, with anxiousness/depression positively associated with both consolation through lyrics and music. Aggression was negatively associated with consolation through lyrics and the music itself, and positively with oneness/togetherness. High affect through music (PANAS) was also significantly linked to different aspects of consolation, with five out of six associations being significant and positive. Pop and Rock preferences were positively associated with consolation by music, Pop and Rock preferences were also associated with consolation through lyrics positively, and preferences for Afro-American/-Caribbean music and Dance were negatively associated with consolation. Regarding background characteristics, men were more likely to experience oneness/togetherness compared to women, and the same emerged for the highly educated respondents as compared to the lower educated. The  $R^2$  of aspects of consolation range between .18 and .25, indicating that this set of predictors is relevant.

## Discussion

This study aimed to describe the prevalence of music listening for consolation, identify music aspects that are perceived to yield consolation, and map factors predicting music consolation as well as different aspects of music that are perceived to be consoling. We hypothesized that the majority of our respondents would use music for consolation (Hypothesis 1). The results suggest that consolation is a concept with high face value and salience among respondents. A large majority of the respondents, 69.4%, indicated that they use music as a source of consolation.

**Table 4.** Standardized coefficients of indicators of consolation and three aspects of consolation.

	Consolation	...by lyrics	... by oneness & togetherness	...by music itself
<b>Background</b>				
Gender (Female)	.36**	.05	-.09*	.01
Age	.00	-.04	-.03	-.05
Education level	-.04	.03	.17**	-.05
<b>Problems</b>				
Anxious/depressed	.31**	.19**	-.05	.22**
Aggressive	-.22**	-.14**	.21**	-.17**
<b>Music factors</b>				
Listening hours	.10	.06	.00	.01
Music importance	.24**	.07	.03	.13**
PANAS positive	.41**	.28**	.19**	.27**
PANAS negative	.25**	.14**	.20**	.01
Pop	.12*	.15**	.05	.09*
Rock	-.01	.09*	.03	.11*
Afro-American/-Caribbean	.04	.12**	-.01	.04
Dance	.04	-.12**	-.02	-.07
Highbrow	.09	-.01	-.08	.02
<b>R<sup>2</sup></b>	.27	.25	.18	.23

Note. The values in the Consolation column refer the whole sample ( $N = 1,040$ ), standardized coefficients from a regression analysis. Results in the other three columns refer to only those respondents actually using music as a source of consolation ( $n = 981$ ), standardized path coefficients from a multivariate regression analysis.

\* $p < .01$ . \*\* $p < .001$ .

Thus, this study provides evidence that music listening for consolation is a widely-used practice. Seeking consolation is not only relevant in situations of absolute loss and deep grief. While being consoled by music, adolescents and young adults may be better prepared to confront daily stress and disappointment, adding to healthy psychological development.

Respondents not only indicated that they seek music's consoling effects, but they also responded in a highly consistent pattern to our questions on the aspects of music that yield consolation. We hypothesized that at least three aspects of music listening result in consolation (Hypothesis 2). This study showed that people indeed find consolation through interpreting music lyrics as meaningful and helpful in various situations. Listeners further seek music that has a feel, atmosphere, or sound that consoles them. To a somewhat lesser extent, listeners find consolation in the fact that music elicits feelings of oneness and togetherness, with artists addressing not only their distress through their songs, but also with other listeners who are part of the same fan community. Even though we crafted our measures based on different aspects of consolation from a field of study that is remote from music psychology, it seems that the work of Norberg et al. (2001) is a valuable source of ideas. Their assessment of defining elements of the consolation situation – meaningful conversation, empathy, and togetherness – can be translated from real life interactions between persons to the situation of listeners in relation to their music.

With regard to the relation between music listening for consolation and background characteristics such as gender, age, and education level, we hypothesized small or no group differences

(Hypothesis 3). Indeed, no differences were found with regard to age and education, implying that although music preferences themselves may be informed by these factors, finding consolation is a characteristic that is broadly diffused among people. However, we found that, compared to males, females were significantly more inclined to seek consolation through music. We tentatively seek a possible explanation for this dissimilarity in gender differences in empathy. Consolation theory assumes that in real life, trying to find consolation is a process whereby both the comforting and comforted partners rely on empathy to initiate a dialogue and develop closeness, resulting in consolation. Reviews of empathy have established that, in general, females are more empathetic compared to males (e.g., Derntl, 2010; Eisenberg & Lennon, 1983), and this difference may be the basis for the increased inclination to seek consolation through music in females compared to males. It must be emphasized though that the differences between men and women were small and that large majorities of both women and men use music for this purpose.

It was furthermore hypothesized that anxious/depressed and aggressive people would be more likely to seek music's consoling effects or that there would be no relation between problems and consolation (Hypothesis 4). Thomson et al. (2014) found no relation between internalizing problems and seeking solace in music, but our results indicated elevated levels of consolation seeking among anxious/depressed respondents. These individuals may see their troubles reflected in music and therefore use listening as a means to cope with problems (Arnett, 1991; Weinstein, 1991/2000). Unexpectedly, respondents with higher aggression showed decreased levels of consolation seeking. Tentatively, we would like to propose that this group might lack motivation to use music to seek consolation possibly due to impaired empathic capacities, as described above. Aggressive adolescents have been shown to lack empathy (e.g., Lovett & Sheffield, 2007), and precisely this characteristic may hinder them from benefitting from the music's potential consoling effects. An alternative explanation would be that youth with externalizing problems may primarily want to vent frustration and aggression through listening to their preferred music (Arnett 1991, 1996; Sharman & Dingle, 2015), but this process may be fundamentally different from the one in which listeners seek consolation.

As expected, highly involved listeners and those showing strong emotional reactions to music, use music as an agent of consolation more often (Hypothesis 5). Our results hint at the fact that it is not hours of listening as such but the level of attachment and the emotional strength of music, both positive and negative, which indicates this type of music use. Our results further showed that the importance of music and emotional reactions to music might be more important predictors of music consolation compared to music preferences. However, it appears that, with other factors controlled for, Pop fans tend to seek music's consoling effects more often. This once more hints at the broadly distributed propensities to use music in this way.

No specific antecedents of aspects of consolation through music were anticipated. We found that significant relations with aspects of music listening were found particularly in the domain of problems, i.e., anxious/depressed behavior and aggression, and in the realm of music elicited effects. Anxious/depressed respondents were more likely to value music's lyrics and musical qualities as components yielding consolation. People with sad moods not only evaluate sad music as more sad compared to happy individuals (Hunter et al., 2011), it may also be that they are more sensitive to cues in both the music and in the lyrics that offer consolation. They seem to be motivated to seek consolation through music listening more frequently compared to happy respondents and therefore more easily detect those qualities. The reverse may hold for aggressive respondents showing a relatively low sensitivity to the consoling effects of music and lyrics. The fact that they seek music consolation less often translates into considering music and lyrics as less important for consolation. Interestingly, a positive relation was found between



aggressiveness and consolation through oneness/togetherness. Aggressive fans may be sensitive to this consoling aspect in support of their belief that they belong to a large group of similar fans in identical positions, with identical problems, as has been suggested by Arnett (1996) and Weinstein (1991/2000) in their pioneering studies of heavy metal fans in the 1990s.

Strong emotional reactions are related to increased consolation through all three aspects of music listening, indicating that elicited affect goes hand in hand with higher sensitivity to clues in the music that enhance consolation. Relatively weak path coefficients were found between music preferences and in particular consolation by lyrics. The overall pattern is that fans of Pop, Rock, and Afro-American/-Caribbean music, but not Dance fans or Highbrow aficionados, pay more attention to the consoling effect of lyrics. Interestingly, lyrics are of little importance in music that is primarily for dancing. Much classical music and jazz is instrumental music; therefore, text cannot be a source of consolation, which, apparently, listeners preferring these types of music expect.

### *Limitations and future research*

This study is based on a cross-sectional sample. Evidently the predictors of seeking and finding consolation and its concurrent or lagged effects on mood and coping behaviors cannot be modeled in a cross-sectional set-up. Future studies should therefore adopt longitudinal designs. Second, although our models showed a satisfying fit and explained a substantial proportion of variance of our outcomes, much is not charted. Below we will propose what research is needed to further explore consolation in relation to music.

*Qualitative research among individuals in great distress.* Our study probed into the specifics of daily sorrow and stress in relation to consolation, but the study of music as a potential consoling medium in situations of great loss is obviously valuable. As these situations are less frequent compared to the ones described in this study, an alternative approach may be necessary. Norberg's studies have shown that qualitative interviewing is an appropriate tool to map experiences of emotionally deeply afflicted individuals in situations of outright loss and imminent death; thus, it is important to target and assess these individuals using qualitative methods to determine whether music can be comforting in their situation.

*Sad music may aggravate problems.* Music consoles, even sad music. However, Garrido and Schubert (2013) hypothesized that for ruminators, listening to sad music may be a maladaptive strategy in the sense that it exacerbates their negative mood. Thus, whereas some youths may benefit from listening to sad music and may feel that the music consoles them, others may actually become more depressed. Exploring the underlying mechanism is crucial given the frequent use of music for consolation and the high prevalence rate of depressive feelings among adolescents.

*Mechanisms inducing consolation.* Now that certain aspects of consolation have been identified, further research should investigate which intricate cognitive and emotional processes are involved in creating meaning from lyrics in specific situations and in experiencing togetherness with others. Musicologists may help define the structural elements in the music itself that are liable to create the consolation effect. Fast tempo and major key suggest happiness whereas minor key and slow tempo suggest sad mood in music. It has indeed been found that music with these characteristics induces happy and sad mood, respectively (Hunter et al., 2011); however, which structural qualities of music heighten consolation?

In sum, since music has been shown to be an important source of consolation, further research should elaborate how lyrics, closeness/oneness with artists/fans, and the music itself can operate in such a fashion, and whether music, through its consoling effects, can indeed alleviate sad mood and depression and help cope with problems not only in the short, but also in the medium, and long term.

## Acknowledgement

The authors thank Konrad Boehmer († 2014) for his advice on the consoling qualities of Western classical music.

## Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

## References

- Arnett, J. (1991). Adolescents and heavy-metal music: From the mouths of metalheads. *Youth & Society*, 23, 76–98.
- Arnett, J. J. (1996). *Metalheads: Heavy metal music and adolescent alienation*. Boulder, CO: Westview Press.
- Chen, L., Zhou, S., & Bryant, J. (2007). Temporal changes in mood repair through music consumption: Effects of mood, mood salience, and individual differences. *Media Psychology*, 9(3), 695–713.
- Christenson, P. G., & Roberts, D. F. (1998). *It's not only rock & roll: Popular music in the lives of adolescents*. Cresskill, NJ: Hampton Press.
- De Bruyn, E. E. J., Vermulst, A. A., Houtmans, M. J. M., & De Meyer, R. E. (1997). *The Nijmegen problem behavior list, research version*. Nijmegen, the Netherlands: University of Nijmegen.
- De Waal, F.B.M., & Van Roosmalen, A. (1979). Reconciliation and consolation among chimpanzees. *Behavioral Ecology and Sociobiology*, 5, 55–56.
- Delsing, M. J. M. H., ter Bogt, T. F. M., Engels, R. C. M. E., & Meeus, W. H. J. (2008). Adolescents' music preferences and personality characteristics. *European Journal of Personality*, 22(2), 109–130.
- Derntl, B., Finkelmeyer, A., Eickhoff, S., Kellermann, T., Falkenberg, D. I., Schneider, F., & Habel, U. (2010). Multidimensional assessment of empathic abilities: Neural correlates and gender differences. *Psychoneuroendocrinology*, 35(1), 67–82.
- Eisenberg, N., & Lennon, R. (1983). Sex differences in empathy and related capacities. *Psychological Bulletin*, 94, 100–131.
- Garrido, S., & Schubert, E. (2013). Adaptive and maladaptive attraction to negative emotions in music. *Musicae Scientiae*, 17(2), 147–166. doi:10.1177/1029864913478305
- Greenwood, D. N., & Long, C. R. (2009). Mood specific media use and emotion regulation: Patterns and individual differences. *Personality and Individual Differences*, 46(5), 616–621.
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85(2), 348–362.
- Hevner, K. (1936). Experimental studies of the elements of expression in music. *American Journal of Psychology*, 48, 246–268.
- Hunter, P. G., Schellenberg, E. G., & Griffith, A. T. (2011). Misery loves company: Mood-congruent emotional responding to music. *Emotion*, 11, 1068–1072. doi:10.1037/a0023749
- Kierkegaard, S. (2009). *Christian discourses: The crisis and a crisis in the life of an actress*. Princeton, NJ: Princeton University Press. (Original work published 1848)
- Klass, D. (2013). Sorrow and solace: Neglected areas in bereavement research. *Death Studies*, 37(7), 597–616.
- Knoblauch, S. (2006). Mood management theory: Evidence, and advancements. In J. Bryant & P. Vorderer (Eds.), *Psychology of entertainment* (pp. 239–254). Mahwah, NJ: Lawrence Erlbaum.

- Knoblauch, S., & Zillmann, D. (2002). Mood management via the digital jukebox. *Journal of Communication*, 52(2), 351–366.
- Labbé, E., Schmidt, N., Babin, J., & Pharr, M. (2007). Coping with stress: The effectiveness of different types of music. *Applied Psychophysiology and Biofeedback*, 32(3–4), 163–168.
- Lonsdale, A. J., & North, A. C. (2011). Why do we listen to music? A uses and gratifications analysis. *British Journal of Psychology*, 102, 108–132.
- Lovett, B. J., & Sheffield, R. A. (2007). Affective empathy deficits in aggressive children and adolescents: A critical review. *Clinical Psychology Review*, 27(1), 1–13.
- McFerran, K. S., Garrido, S., O'Grady, L., Grocke, D., & Sawyer, S. M. (2014). Examining the relationship between self-reported mood management and music preferences of Australian teenagers. *Nordic Journal of Music Therapy*, 24(3) 187–213.
- Miranda, D., & Claes, M. (2009). Music listening, coping, peer affiliation and depression in adolescence. *Psychology of Music*, 37(2), 215–233. doi:10.1177/0305735608097245
- Miranda, D., Gaudreau, P., & Morizot, J. (2010). Blue notes: Coping by music listening predicts neuroticism changes in adolescence. *Psychology of Aesthetics, Creativity, and the Arts*, 4(4), 247–253.
- Norberg, A., Bergsten, M., & Lundman, B. (2001). A model of consolation. *Nursing Ethics*, 8(6), 544–553.
- Randall, W. M., Rickard, N. S., & Vella-Brodick, D. A. (2014). Emotional outcomes of regulation strategies used during personal music listening: A mobile experience sampling study. *Musicae Scientiae*, 18(3), 275–291.
- Raaijmakers, Q. A. W. (1999). Effectiveness of different missing data treatments in surveys with Likert-type data: Introducing the relative mean substitution approach. *Educational and Psychological Measurement*, 59, 725–748.
- Rasmussen, B. H., Sandman, P. O., & Norberg, A. (1997). Stories of being a hospice nurse: A journey towards finding one's footing. *Cancer Nursing*, 20, 330–341.
- R Development Core Team. (2012). *R: A language and environment for statistical computing*. Vienna, Austria: R Foundation for Statistical Computing.
- Ricoeur, P. (1969). Religion, atheism and faith: I. On accusation; II On consolation. In A. MacIntyre & P. Ricoeur, *The religious significance of atheism* (pp. 58–98). New York, NY: Columbia University Press.
- Rosseel, Y. (2012). lavaan: An R package for Structural Equation Modeling. *Journal of Statistical Software*, 48(2), 1–36.
- Saarikallio, S. H. (2008). Music in mood regulation: Initial scale development. *Musicae Scientiae*, 12(2), 291–309. doi:10.1177/102986490801200206
- Saarikallio, S. (2011). Music as emotional self-regulation throughout adulthood. *Psychology of Music*, 39(3), 307–327. doi:10.1177/0305735610374894
- Saarikallio, S. (2012). Development and validation of the brief music in mood regulation scale (B-MMR). *Music Perception*, 30(1), 97–105.
- Saarikallio, S., & Erkkilä, J. (2007). The role of music in adolescents' mood regulation. *Psychology of Music*, 35(1), 88–109. doi:10.1177/0305735607068889
- Saarikallio, S., Nieminen, S., & Brattico, E. (2013). Affective reactions to musical stimuli reflect emotional use of music in everyday life. *Musicae Scientiae*, 17(1), 27–39. doi:10.1177/1029864912462381
- Salovey, P., Mayer, J. D., Goldman, S. L., Turvey, C., & Palfai, T. P. (1995). Emotional attention, clarity, and repair: Exploring emotional intelligence using the Trait Meta-Mood Scale. In J. W. Pennebaker (Ed.), *Emotion, disclosure and health* (pp. 125–154). Washington, DC: American Psychological Association.
- Schäfer, T., Sedlmeier, P., Städtler, C., & Huron, D. (2013). The psychological functions of music listening. *Frontiers in Psychology*, 4, 1–33.
- Sharman, L., & Dingle, G. A. (2015). Extreme metal music and anger processing. *Frontiers in Human Neuroscience*, 9. doi:10.3389/fnhum.2015.00272
- Shiffriss, R., Bodner, E., & Palgi, Y. (2015). When you're down and troubled: Views on the regulatory power of music. *Psychology of Music*, 43(6), 793–807. doi:10.1177/0305735614540360
- Söderberg, A., Gilje, F., & Norberg, A. (1999). Transforming desolation into consolation: The meaning of being in situations of ethical difficulty in intensive care. *Nursing Ethics*, 6, 357–373.

- Thoma, M. V., Ryf, S., Mohiyeddini, C., Ehlert, U., & Nater, U. M. (2012). Emotion regulation through listening to music in everyday situations. *Cognition & Emotion*, *26*(3), 550–560.
- Thomson, C. J., Reece, J. E., & Di Benedetto, M. (2014). The relationship between music-related mood regulation and psychopathology in young people. *Musicae Scientiae*, *18*(2) 150–165. doi:10.1177/1029864914521422
- Ter Bogt, T. F. M., Mulder, J., Raaijmakers, Q. A. W., & Nic Gabhain, S. (2010). Moved by music: A typology of music listeners. *Psychology of Music*, *39*(2), 147–163. doi:10.1177/0305735610370223
- Van den Tol, A. J. M., & Edwards, J. (2011). Exploring a rationale for choosing to listen to sad music when feeling sad. *Psychology of Music*, *40*, 1–26. doi:10.1177/0305735611430433
- Van Goethem, A., & Sloboda, J. (2011). The functions of music for affect regulation. *Musicae Scientiae*, *15*(2), 208–228.
- Watson, D., Clark, L.A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect – the Panas Scales. *Journal of Personality and Social Psychology*, *54*, 1063–1070.
- Weinstein, D. (2000). *Heavy metal: The music and its culture*. Boston, MA: Da Capo Press. (Original work published 1991)