Abstract

Data on everyday music listening obtained via the Experience Sampling Method indicated that selection method was related to liking for and emotional response to the music, attention paid to the music, and perceived the consequences of hearing the music. Individual listener's characteristics (e.g., age and level of engagement with music) were associated with selection behaviors. Negative effects resulted when individuals perceived that they did not have control over music selection. In contrast, possessing control led to positive consequences such as enjoyment and motivation. These results indicate that control is an important aspect of one's everyday music experiences.

Key Words: music, experience sampling method, everyday life, selection methods, choice

Running head: Music selection behaviors

Published Citation:
Krause, A. E., North, A. C., & Hewitt, L. Y. (2014). Music selection behaviors in everyday listening. Journal of Broadcasting and Electronic Media, 58, 2, 306-323. doi:10.1080/08838151.2014.906437

Music Selection Behaviors in Everyday Listening

Music is exceedingly prevalent in the everyday western world. While mobile devices, personal computers, and the Internet provide varying opportunities for interacting with music and allow people to expand upon how and when they experience music (Heye & Lamont, 2010; Juslin, Liljeström, Västfjäll, Barradas, & Silva, 2008), little is known about people's music selection behaviors. The lack of understanding of how music is selected is particularly interesting given data from, for example, North, Hargreaves, and Hargreaves (2004) showing that music could be heard on 38.6% of randomly-selected occasions on which 346 participants were contacted daily over 14 days. Other research that has employed the Experience Sampling Method has provided data when studying music interactions in everyday contexts (Sloboda, O'Neill, & Ivaldi, 2001), but has not considered how the music in question was selected (e.g., Greasley & Lamont, 2011). The present research addresses this gap in the literature.

The development of portable music players with high storage capacities means that people's access to music has arguably never been greater than in the present day, and so choice and the means by which people select music may be important and hitherto under-researched concepts: it is quite conceivable that the greater range of music available and the greater degree of control over it afforded by music technology has implications for the ways in which people might use music in everyday life. Since it is only recently that technology has revolutionized our ability to control our music listening, understanding of the role of this greater degree of control is poor. At this stage, descriptive data is needed in order to allow proposal of an applicable theory concerning control, and the present research attempts to address these needs.

The Potential Influence of Control

Music selection inherently involves an aspect of control. A body of psychological research has demonstrated that control (and even the perception or illusion of control)

mediates various aspects of health and well-being, and reactions to stress and pain in particular (Lachman & Weaver, 1998; Mitchell, MacDonald, & Knussen, 2008; Taylor & Brown, 1988; Tetrick & LaRocco, 1987). Preferred music from one's own collection has been found to significantly increase a person's perceived control over painful stimuli and reduce anxiety (Mitchell & MacDonald, 2006; Mitchell, et al., 2008). Regarding pain and stress, it has been put forth that the feeling of being in control and the distraction of one's attention may provide theoretical explanations for music's benefit to well-being (Mitchell, et al., 2008). In a mundane context, then, how music is encountered may influence one's perceptions and reactions to it because the degree of control will vary. In apparent support of this, Sloboda (2005, 2010) reported that positive mood change was greatest when individuals exercised choice and further suggested that negative emotions would be less frequent following chosen music than unchosen music; and participants in Skånland's (2011) research indicated that by listening to personal music on MP3 players, they could make their situation more tolerable. For example, individuals noted that music acted as a diversion from a stressful commute, blocked out the surrounding sounds, and that it could create psychological distance from others on crowded public transport. While choice has been implicated in terms of mood change (e.g., Sloboda, et al., 2001), it may play a larger role in contributing to the context in which people experience music.

In their study on music experiences in everyday life, North et al. (2004) conceptualized choice in hearing music as a dichotomy; however, choice may be better represented as a continuum. Further, beyond simply asking people if they had a choice in hearing music, we can broaden our conceptualization of what control refers to by including *how* the music was selected. Such a conceptualization might deepen our understanding of how choice might be relevant to music listening (and more broadly the context in which listening occurs). Different selection methods are likely to vary in terms of the degree of choice they imply. For example, selecting a specific item to listen to or a playlist you made may give rise to a higher rating of

choice in comparison to having no control over the music heard, someone else choosing that music, or perhaps hearing music on the radio. An examination of selection behaviors thus allows for the exploration of this idea concerning control to a level of detail that has been missing from prior research concerning everyday music interactions.

Additionally, selection methods may be related to the perceived consequences of hearing music. North et al. (2004) concluded that participants appeared to have a rather passive attitude towards music, due in part to its increased availability as a consequence of digital technology. However, how might we (re)evaluate such a conclusion if we focus on how the music was selected? When comparing high to low levels of choice, individuals report different functions of music (Greasley & Lamont, 2011). With high levels of choice, people reported enjoyment, relaxation, and concentration functions; while with low levels of choice, there were more instances of music having little or no effect and being perceived as annoying to the individual. Therefore, it is reasonable to presume that how the music was selected may affect the consequences of hearing the music. Specifically, the positive and valued consequences of the music - such as enjoyment, motivation, and passing the time – are expected to be associated with higher ratings of perceived choice in music selection. It is also reasonable to expect that high choice ratings will be associated with higher ratings for liking whatever music was heard because the individuals are exerting personal control over the listening situation and likely selecting from a familiar catalogue of options.

Variables that Might Influence Selection Behaviors

Different populations may not utilize emerging technologies to the same degree. Frequently, students are early adopters of new technology (Tepper & Hargittai, 2009); while adults are more likely to access music via CD or radio, teenagers are more likely to use YouTube (Nielsen, 2012). Teenagers also report using other digital music services, such as YouTube, Spotify, and iTunes (Komulainen, Karukka, & Hakkila, 2010). Potentially, differences

may arise when considering selection methods that are now widely associated with mobile devices (i.e., playlist and shuffle – a playback option that automatically randomizes song presentation) in comparison to more traditional formats, such as the radio and CDs. Gender is a potential predictor too, as males are more likely than females to report listening to music and watching videos online as well as downloading music on a weekly basis (Jones, Johnson-Yale, Millermaier, & Pérez, 2009). Moreover, engagement with the music plays a role in how individuals interact with it, specifically in terms of how often a person participates in music activities (Greasley & Lamont, 2006) and the reasoning provided to explain listening (Greasley & Lamont, 2011). Regarding mobile device use while traveling, Heye and Lamont (2010) distinguished two listener types. "Technology users" were more likely to have large, organized collections of music stored on portable players and be able to speak about managing their collection, while "technology consumers" were driven to access their favorite songs and relied on automatic playlists. Therefore, the means of selection potentially depend on one's level of engagement with music: to operationalize this, one might expect that a person's consideration of how important music is in their life and/or how many hours they spend listening to music each day may have a bearing on the methods they employ in the selection of music. A similar potential influence on music selection methods is the time when the listening takes place (Cunningham, Caulder, & Grout, 2008), perhaps as a consequence of the constraints imposed by the various activities in which one typically engages at certain times. Accordingly, the present research investigated seven questions, as follows:

RQ1: How do people select music to listen to in their everyday life?

RQ2: Are the selection methods by which people experience music related to [a] an individual's characteristics, such as age or gender, or [b] their music behaviors such as how much time they spend listening to music, their level of music education, or the importance they place on music?

RQ3: Do people use different selection methods to listen to music at different times of the day or on different days of the week?

RQ4: How does one's mood relate to music selection method?

RQ5: How do the consequences of hearing music in everyday contexts relate to selection behaviors?

RQ6: Does the ability to have choice in what is heard relate to a person's experience of hearing music?

RQ7: How does selection method relate to the devices involved in everyday listening?

Method

Participants

One hundred and seventy seven participants were recruited via information on the first author's website, posters at a university campus in Scotland, and emails to University students and alumni. The sample included 101 females (57.1%); ages ranged from 17-75 years (M = 32.70 years, Mdn = 28, SD = 14); and 41.24% were students. Three independent raters assessed each participant's degree of musical education and training, such that 49.7% were classified as having a "low" level of musical background, 38.4% as "moderate," and 11.9% as having "high."

Design and Procedure

This data was collected at the same time as that reported by Krause, North, and Hewitt (2013). Briefly, after completing a short online background questionnaire concerning age, sex, occupation, musical background, musical preferences, level of engagement with music, and contact details, individuals received a unique participant identification number and details regarding the response procedure. For seven days, participants then received one text message at a random time between 8:00 and 15:29, and another between 15:30 and 23:00

requesting that they complete a response entry online as soon as they could safely do so. To complete each entry, participants noted the date and time they received the text message and the time that they completed the entry. If participants had not heard music within a two-hour period prior to receiving the text message, they simply noted such and their entry was complete. However, if music was heard, participants responded to series of questions regarding their most recent listening experience.

Participants indicated how the music that they heard was selected (referred to hereafter as "selection method") from a list of options as detailed in Table 1 (e.g., "I did not have any control," "pre-made playlist – your own," "specific song," "listened to the radio"). Additionally they indicated the device involved (e.g., radio, mobile mp3 player, a personal collection on the computer). Individuals were asked to rate their level of choice in hearing the music, how much attention they paid to the music, how much they liked the music, and how arousing the music was on seven-point Likert scales (1 = *none/not at all* to 7 = *total/ very much*). They also retrospectively rated their affect immediately before and after music exposure on seven-point scales, by providing ratings for "bored/unstimulated," "excited/festive," "peaceful/relaxed," "unsettled/disconcerted'; how pleasant their mood was; and how aroused they were (1 = *not at all*, 7 = *very much*). These mood responses follow from North and Hargreaves' (1997) application of the circumplex theory of emotion to music specifically. The circumplex theory conceptualizes affective judgments in a circular structure on two dimensions: "pleasant-unpleasant" and "arousing-sleepy" (Russell, 1980), and the four items used represent each quadrant of the structure. The circumplex theory has been the topic of a reasonably large amount of research on music and fits in well with the body of evidence on psychobiology and musical taste making it a useful measure to use to explore everyday listening. For analyses, responses were factored into two "change in mood" factor scores: "lethargy" and "contentment" (reported in Krause, et al., 2013). Lastly, participants responded to 12 statements (adapted from North, et al., 2004) regarding the perceived consequences of

the music heard. While these statements likely cover reasons, motivations, and/or uses of listening, we refer to them as *perceived consequences* because they focused on the effect of hearing the music and were answered regardless of the participants' level of choice or intentions. For analyses, these statements were factored into three general consequences of listening: "purposive," "actively engaged," and "validation-seeking" listening. For example, the consequence "it helped my concentration" was characteristic of purposive listening, "it helped to pass the time" was characteristic of actively engaged listening, and "it made me look good" was characteristic of validation-seeking listening (reported in Krause, et al., 2013).

Results & Discussion

Selection Method Frequencies

To address research question 1, how people select music to listen to in their everyday life, participants stated how the music was chosen from 16 options. Three options - created a playlist at the time, downloaded from the Internet, and cloud streaming - were selected on fewer than 15 occasions and, thus, were removed from further analyses. The most frequently stated selection method was listening to the radio (see Table 1), followed by not having any control, selecting a specific album, and random/shuffle. Hearing music performed live accounted for only 3.0% of the music experiences. Most music people encountered daily was, therefore, pre-recorded, although individuals used many different methods to choose what was heard. That the radio and specific album were used to a greater degree than other music selection methods may reflect that the traditional model of listening persists despite modern technological developments.

-table 1-

Differences Across Selection Methods

In order to address research questions 2-6, a MANOVA was conducted to investigate whether selection methods (entered as the grouping variable) were associated with the part of the week (*weekday* = 1 or *weekend* = 2); four time periods during the day (8:00-8:59, 9:00-16:59, 17:00-20:59, and 21:00-23:00, coded 1-4); age; gender (*females* = 1, *males* = 2); student status (*non student* = 0, *student* = 1); level of music education; rating of the importance of music; average hours spent listening to music daily; ratings of the extent to which the participant had choice in the music experienced; ratings of attention given to the music; ratings of liking for the music involved; ratings of how arousing the music was; consequence factor scores; and mood change factor scores. This MANOVA was significant (F (204, 10860) = 5.60, $p < .001$, partial $\eta^2 = .10$), and the univariate results are displayed in Table 2.

-table 2-

In response to research question 2 regarding participant characteristics, as evident in Table 2, the participants' age, student status, level of music education, rating of the importance of music, and the average hours spent listening to music daily were significantly related to selection method. Live performances were most likely to be reported by people with more musical experience: in contrast, people with less musical experience were more likely to report listening to someone else's playlist, listening to the radio, and watching TV. This indicates a pattern relating higher levels of musical experience to the exertion of control over what music is experienced, whereas lower levels of musical experience are associated with a more passive approach to music.

As predicted, there was also a relationship between selection method and age: older participants (and non-students) tended to report accessing music via broadcast media whereas younger participants (and students) reported greater use of shuffle. Furthermore, students also made more use of playlists and internet streaming than non-students. To argue that this

finding is indicative of a generational difference probably represents an over-extrapolation, although these findings do corroborate recent evidence regarding age-related differences in accessing music (e.g., Nielsen, 2012). There was not a significant result concerning gender. While prior work has indicated differences in how males and females access music (e.g., Jones, et al., 2009), it appears that selection behaviors are not gender specific.

Concerning research question 3, examination of the means indicated that hearing music performed live and via a TV were most likely to occur later in the day and at the weekend. In contrast, the radio was more likely to be used earlier in the day and during the week. These findings suggest that time might relate to how we interact with music in light of which music devices and selection method opportunities are available at that time.

With regard to the relationship between mood and music selection method (research question 4), both the contentment and lethargy mood factors produced significant univariate results. The response *I did not have control* produced opposing results: it was related positively to lethargy but negatively to contentment. *Someone I was with chose* corresponded with shifts away from contentment as well. Using one's personal playlist was associated with high contentment scores, and live performance and random/shuffle gave rise to the strongest shifts away from feeling lethargic. Thus, the prediction that choice would be positively associated with positive mood responses is supported: people's own music under their control was related to positive affective experiences more so than other people's music experienced under the control of another. Further, this supports previous research and theory regarding control and positive emotion (e.g., Liljeström, Juslin, & Västfjäll, 2013; Sloboda, 2010). Whether labeled specifically as a coping resource for well-being or not, people appear to respond well to the music that they control.

Considering research question 5 concerning the consequences of experiencing music, all three consequence scores produced significant univariate results (see Table 2). Live performance was associated with high positive ratings for all three types of consequences:

purposive, actively engaged, and validation-seeking listening. Shuffle and personal playlists were also positively associated with purposive listening. It is probable that playlists, specifically, might motivate and encourage, as a person could deliberately create and use a specific themed playlist, for instance when exercising. Consistent with the notion that music chosen to help motivate or for engrossed listening requires the opportunity for one to control what is heard, *I did not have control* and *someone I was with chose* gave rise to lower scores on the purposive and actively engaged listening factors. For example, when people lacked control over the music experience, they rated the music as distracting, hindering concentration, not enjoyed, and to be avoided. These findings demonstrate that higher choice levels are associated with positive consequences, while lower levels of control would be associated with negative consequences.

Positive means for validation-seeking listening arose when the participant had no control over the music heard and when someone else chose the music; while choosing a specific artist was associated most negatively with validation-seeking listening scores. As this validation may be dependent on other people, the positive consequence of such may not rely on personal choice, which would accommodate this different pattern concerning choice in comparison to actively engaged and purposive listening. While prior research (e.g., Greasley & Lamont, 2011) has associated varying functions of music with level of choice, these results imply that, in addition, selection methods correspond to experiencing different consequences of everyday listening, suggesting that how music is selected should be considered as a part of the broader situation in which listening takes place.

Addressing research question 6, selection method was significantly associated with differences in ratings of choice, attention, liking, and arousal (see Table 2). *I did not have control* was associated with the lowest ratings of choice, attention, liking, and arousal. The highest ratings of choice, on the other hand, were associated with specific album, followed closely by specific artist, and one's own playlist. High ratings of attention and arousal were

given to live performances, while highest ratings for liking what was heard were for when a specific artist was chosen. It appears that these patterns concerning selection method are also, at least in part, related to the notion of control, as methods that require more input from a person (choosing a specific artist for example) derive higher benefits in terms of these ratings. In contrast, not having control or having the music chosen by someone else led to less positive ratings. Furthermore, the selection methods associated with the highest means for ratings of choice *and* liking were the same (namely specific album, specific artist, specific song, and a personal playlist). In general, the evidence supports the results concerning mood and perceived consequences, as well as the argument that perceived control is associated with positive responses (Mitchell, et al., 2008).

While the highest mean attention ratings pertained to music performed live which is logically intuitive (a concert-goer who elected to attend a performance would be expected to pay attention to the music), live performances were not representative of typical everyday listening experiences (at 3.0% of total reported selections). Setting live performances aside, high attention ratings appear to coincide with high choice ratings (e.g., specific songs and personal playlists). Moreover, *I did not have control* and *someone I was with chose* gave rise to the two lowest mean attention ratings. Indeed, it seems intuitive that the data concerning control and attention should evince similar patterns.

Therefore, an individual's volition, as expressed in terms of his/her selection behavior, in a listening situation is related to how much one likes the music, pays attention to the music, is aroused by the music, and feels that one had a choice related to the music. These significant results pertaining to these four constructs demonstrate the importance of considering selection method in understanding everyday listening. In sum, the results support broadening the concept of control in music listening to include selection behaviors.

Devices and Selection Method

Different devices offer users different, and often multiple, selection methods. For instance, listeners can select to listen to the radio using a dedicated radio device, but also the computer, a telephone, or television. Therefore, a chi-square analysis investigated how selection method might be associated with different devices (research question 7). Because of otherwise low expected cell counts, mobile MP3 player, mobile telephone, and mobile CD player were collapsed into a single "mobile device" category; one's own collection on a computer, computer streaming, and cloud computing were collapsed into a "computer device" category; MP3 and CD stereo were grouped as "hi-fi device"; and pre-recorded and live music heard in public were joined in the "in public" category. Regarding the selection methods, a category labeled "specific choice" contained instances of specific album, specific artist, and specific song; playlists by oneself and others were grouped as "playlists," and "other" was removed from the analysis. The resultant 6 x 9 chi-square test was significant (X^2 (40) = 2040.90, $p < .001$; see Table 3). As expected, most radio listening occurred via a radio, almost all TV selections came via a TV, and web streaming took place almost exclusively via computers. However, other comparisons reveal far more interesting patterns about how individuals typically experienced music. Music heard in public was likely to be selected in one of two ways - either out of the person's control or by hearing a live performance. Specific choice was the most popular selection method for mobile, computer, and hi-fi devices, accounting for around a third of the incidences per device category. Random/shuffle and playlist were popular selection methods for these devices also, although their ranking varied across the devices. More than half of all shuffling occurred on a mobile device while almost half of all playlist selection choices were with mobile devices. Whereas music experienced "in public," TV, and, to some degree, radio as devices allow only a narrow range of selection methods, mobile and computer devices allow a much broader range of selection methods which listeners clearly use in everyday life.

-table 3 and 4-

While multiple selection methods may be employed with a particular device, cross-tabulating the reported selection method and device frequencies (see Table 4) further elucidates the trends depending on the device in question. For instance, random/shuffle was most commonly used with a mobile MP3 player but personal playlists were used most frequently with mobile telephones. For computer usage, random/shuffle was most common when listening to a personal collection, but playlists were most common if utilizing a cloud collection. Specific albums were most commonly chosen to play on a stereo if using a CD, but as likely as random/shuffle if playing MP3s on a stereo. Clearly, the enhanced user control common to newer technology is employed, as individuals were more apt to make use of playlist and shuffle functions as opposed to other, more conventional methods, indicating that consumers using these devices take an active approach to music. Consequently, the device involved is another element of *how* the music is experienced. Indeed, while Cunningham et al. (2008) considered the potential influence of *when* listening takes place, the results described here indicate that another aspect of the broader listening context is the type of music device and the extent to which it allows user input within a particular situation.

Conclusion

The present results indicate numerous trends regarding the means by which music is selected in the everyday western world. In response to research question 1, considering how people select music to listen to in daily life, the most frequently stated selection method was listening to the radio, followed by not having any control, selecting a specific album, and random/shuffle. Research question 2 concerned whether selection methods that people experienced were related to the individual differences and music behaviors: age and one's level

of engagement with music are variables by which selection methods differ. As for whether people use different selection methods at different times or on different days (research question 3), hearing music performed live and via a TV were most likely to occur later in the day and at the weekend; however, the radio was more likely to be used earlier in the day and during the week. Thus, our interactions with music may, in part, depend on the devices and selection method opportunities that are available at a particular time and the contexts in which people therefore typically find themselves. Moreover, trends existed as to the selection methods more often employed with regard to a particular device (research question 7). The use of playlists and shuffle functions, characteristic of newer technologies' enhanced user controls, was evident in how individuals made selections, demonstrating that consumers may be using such devices to take an active approach to listening to music.

There is one particularly interesting, unifying theme, which runs through most of the data: this concerns the issue of control. Specifically, selection methods requiring individual input (such as personal playlists or selecting a specific song) were met with positive responses (e.g., contentment mood response and positive consequences), which was in striking contrast to those instances in which individuals stated specifically that they did not have control. Regarding mood (research question 4), people's own music under their own control was related to positive affective experiences more so than other people's music experienced under the control of another. Research question 5 concerned the perceived consequences of hearing music, and the results showed again that not having control gave rise to lower score on the purposive and actively engaged listening consequences, while positive benefits in terms of these types of listening were associated with having choice via different selection methods. Methods that required more input from the person (such as choosing a specific artist, for example) were also associated with ratings of how well liked the music was, how much attention was paid to it, and how much choice a person felt they had in hearing it, addressing research question 6 regarding the person's experience of the music.

This particular general pattern regarding control represents an interesting avenue for future research and theory development. While North et al. (2004) characterized control as an absolute condition, the present data indicates that such a distinction between "control" and "no control" is too simplistic. By utilizing a seven-point scale to rate degree of choice *and* considering how the music was selected, this investigation has produced a richer understanding of listening behavior. Decisions related to control occur to varying degrees, and listening episodes may be the result of multiple choices each involving various degrees of control. For example, simply tuning a radio to a particular station involves a different degree of control than selecting a specific artist from your personal CD collection, or choosing to shuffle the order of songs from a handcrafted, theme-based playlist on a mobile mp3 player. The present results demonstrate that having control over one's listening can be characterized in part by the selection method used, thus suggesting that we reframe the notion of control to include *how* the music was played. Accordingly, this selection behavior variable should be considered as a contextual element in any future discussion or investigation of how people experience and react to music.

As Sloboda, et al. (2001) remarked, an understanding of the broader social context is necessary to psychological theory explaining music experience. This descriptive account of everyday music listening, which was necessary due to the recent technological advancements in music listening technology, demonstrates that the issue of control should feature prominently in any theory concerning everyday listening. One potential, promising direction is to consider Mehrabian and Russell's (1974) environmental psychology theory, which posits that people's interactions and interpretation of their contextual surroundings result from variations in pleasure, arousal, and dominance (the extent to which one controls one's environment). What has been discussed here regarding control suggests that it might map onto the dominance element. For instance, future work might include Mehrabian and Russell's pleasure, arousal, and dominance measure when evaluating the context of listening situations.

Also, while North et al. (2004) concluded that participants appeared to have a rather passive attitude towards music due in part to an increased availability of music, the apparent importance of control indicated by the present data leads to the conclusion that the high prevalence of music does not imply that a low value is attached to that music. Rather the present data indicate that music is important to people: the availability of music may be taken for granted by the individuals concerned, but music is not unimportant. Music encountered in everyday contexts corresponds to significant shifts in mood as well as individuals' perceiving it as having varying consequences. This perhaps implies, therefore, that the notion of choice with regard to music may prove to have implications for everyday fluctuations in well-being, beyond its specific uses for pain (Mitchell, et al., 2008). As such, music can be viewed as a potential resource employed by individuals; one that does not exist only in a clinical context, but that can easily be utilized daily. Further, digitization means that the ability to control and select from one's collection whilst in many different contexts makes music an even more powerful tool. The value of this tool, however, may be contingent on the individual's ability to control the music in question.

The Experience Sampling Method offers a naturalistic and ecologically valid approach to studying everyday behavior (Sloboda, et al., 2001), and the present study represents a novel use of this in a musical context by considering how the music was selected. However, this methodology (as implemented) is not without limitations. For instance, the sample was limited to individuals residing in the UK who used their own mobile phone to participate. Consequently, while the sample was diverse in terms of age, it may not be representative of those experiencing music elsewhere in the world. Future cross-cultural research could address how people access music in everyday life by, for example, comparing western experiences to those found in poorer nations, where access to information technology may be more limited. Location, itself, represents an additional contextual element worthy of further consideration. Research warrants investigating how a person's music experiences might differ in public

versus private environments (e.g., Born, 2013), as the devices, selection opportunities, and even the reasons for listening likely differ. Additionally, no further information was obtained from the participants if they indicated that no music was heard. While done to minimize the demands of participating, future research should consider how listening episodes might otherwise differ from non-music episodes. A final suggestion regards the perceived consequences—examining selection behaviors from the perspective of Uses and Gratifications theory specifically may provide further explanation of listening behaviors.

References

Born, G. (2013). Introduction – music, sound and space: Transformations of public and private space. In Georgina Born (Ed.) *Music, sound, and space: Transformations of public and private experience* (pp. 1-69). Cambridge, UK: Cambridge University Press.

Cunningham, S., Caulder, S., & Grout, V. (2008). *Saturday night or fever? Context aware music playlists*. In Proceedings of the 3rd International Audio Mostly: A conference on Interaction with Sound, 64-71. Piteå, Sweden: Interactive Institute Sonic Studio. Retrieved from http://www.audiomostly.com/images/stories/proceeding08/proceedings_am08_low.pdf.

Greasley, A. E., & Lamont, A. (2006). *Musical preference in adulthood: Why do we like the music we do?* Paper presented at the 9th International Conference on Music Perception and Cognition, University of Bologna, Bologna, Italy.

Greasley, A. E., & Lamont, A. (2011). Exploring engagement with music in everyday life using experience sampling methodology. *Musicae Scientiae, 15*(1), 45-71. doi:10.1177/1029864910393417

Heye, A., & Lamont, A. (2010). Mobile listening situations in everyday life: The use of MP3 players while travelling. *Musicae Scientiae, 14*(1), 95-120. doi:10.1177/102986491001400104

Juslin, P. N., Liljeström, S., Västfjäll, D., Barradas, G., & Silva, A. (2008). An experience sampling study of emotional reactions to music: Listener, music, and situation. *Emotion, 8(*5), 668-683. doi:10.1037/a0013505

Komulainen, S., Karukka, M., & Hakkila, J. (2010). Social music services in teenage life – A case study. *Proceedings of the 22nd Conference of the Computer-Human Interaction Special Interest Group of Australia on Computer-Human Interaction*, 364-367. doi:10.1145/1952222.1952303

Krause, A. E., North, A. C., & Hewitt, L. Y. (2013). Music listening in everyday life: Devices and choice. *Psychology of Music*. Advance online publication. doi:10.1177/0305735613496860

Lachman, M. E., & Weaver, S. L. (1998). The sense of control as a moderator of social class differences in health and well being. *Journal of Personality and Social Psychology, 74*, 763-773.

Liljeström, S., Juslin, P. N., & Västfjäll, D. (2013). Experimental evidence of the roles of music choice, social context, and listener personality in emotional reactions to music. *Psychology of Music., 41*(5), 579-599. doi:10.1177/0305735612440615

Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*. Cambridge, MA, USA: Massachusetts Institute of Technology.

Mitchell, L. A., & MacDonald, R. A. R. (2006). An experimental investigation of the effects of preferred and relaxing music on pain perception. *Journal of Music Therapy, 63,* 295–316.

Mitchell, L. A., MacDonald, R. A. R., & Knussen, C. (2008). An investigation of the effects of music and art on pain perception. *Psychology of Aesthetics, Creativity, and the Arts, 2*(3), 162-170. doi:10.1037/1931-3896.2.3.162

Nielsen (2012, August). *Music discovery still dominated by radio, says Nielsen Music 360 report*. Retrieved from Neilsen website: http://www.nielsen.com/us/en/insights/press-room/2012/music-discovery-still-dominated-by-radio--says-nielsen-music-360.html.

North, A. C. & Hargreaves, D. J. (1997). Liking, arousal potential, and the emotions expressed by music. *Scandinavian Journal of Psychology, 38*, 45-53. doi:10.1111/1467-9450.00008

North, A. C., Hargreaves, D. J., & Hargreaves, J. J. (2004). Uses of music in everyday life. *Music Perception 22*(1), 41-77.

Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology, 39*, 1161-1178.

Sloboda, J. A. (2005). Music as a language. In J. A. Sloboda (Ed.) *Exploring the Musical Mind* (pp.175-189). Oxford: Oxford University Press.

Sloboda, J. A. (2010). Music in everyday life: The role of emotions. *Handbook of music and emotion: Theory, research, applications* (pp. 493-514). New York, NY: Oxford University Press; US.

Sloboda, J. A., O'Neill, S. A., & Ivaldi, A. (2001). Functions of music in everyday life: An exploratory study using the experience sampling methodology. *Musicae Scientiae, 5*(1), 9-32.

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. Psychological Bulletin, 103(2), 193-210. doi:10.1037/0033-2909.103.2.193

Tepper, S. J., & Hargittai, E. (2009). Pathways to music exploration in a digital age. *Poetics, 37*, 227-249. doi:10.1016/j.poetic.2009.03.003

Tetrick, L. E., & LaRocco, J. M. (1987). Understanding, prediction, and control as moderators of the relationships between perceived stress, satisfaction, and psychological well-being. *Journal of Applied Psychology, 72*(4), 538-543. doi:10.1037/0021-9010.72.4.538

Table 1.

Selection Method Reported Frequencies

Selection Method	Frequency	Percent	Valid Percent
Listened to the radio	257	23.4	24.2
I did not have any control	138	12.5	13.0
Specific album	133	12.1	12.5
Random/Shuffle	108	9.8	10.2
Personal premade playlist	78	7.1	7.3
Specific artist	77	7.0	7.2
Someone I was with chose	69	6.3	6.5
Watched TV	61	5.5	5.7
Specific song	37	3.4	3.5
It was performed live at the time	32	2.9	3.0
Premade playlist - by someone else	27	2.5	2.5
Website streaming	27	2.5	2.5
Other	19	1.7	1.8
Total	1063	96.6	100.0
Removed:			
Missing	17	1.5	
Playlist created at the time	10	.9	
Downloaded from the Internet	5	.5	
Cloud streaming	5	.5	

Total	1100	100.0

Table 2.

One-way MANOVA Results Concerning Selection Method

		I did not have control		Someone I was with chose		Specific artist		Specific album		Specific song		It was performed live		Random/ Shuffle	
Variable	F Value	Mean	S.E	Mean	S.E	Mean	S.E	Mean	S.E	Mean	S.E	Mean	S.E	Mean	S.E
Part of week	1.92*	1.19	0.04	1.31	0.05	1.19	0.05	1.18	0.04	1.18	0.07	1.31	0.08	1.16	0.04
Part of day	5.67***	2.56	0.07	2.67	0.10	2.43	0.10	2.62	0.07	2.50	0.14	3.00	0.16	2.51	0.08
Age	5.12***	33.84	1.26	31.97	1.80	27.67	1.68	34.34	1.28	27.71	2.36	33.35	2.70	27.02	1.38
Gender	1.06	1.48	0.05	1.36	0.07	1.45	0.06	1.52	0.05	1.56	0.09	1.46	0.10	1.40	0.05
Student status	8.89***	0.41	0.04	0.40	0.06	0.60	0.06	0.31	0.04	0.62	0.08	0.42	0.09	0.56	0.05
Music education rating	5.20***	1.61	0.06	1.64	0.09	1.79	0.08	1.95	0.06	1.79	0.12	2.08	0.13	1.66	0.07
Importance rating	3.74***	5.36	0.11	5.81	0.16	5.79	0.15	5.88	0.11	5.56	0.21	6.08	0.24	6.14	0.12
Average daily listening amount	3.10***	2.59	0.20	2.57	0.28	3.02	0.26	2.98	0.20	2.25	0.37	2.79	0.42	3.54	0.21
Choice rating	102.69***	1.23	0.15	2.95	0.21	6.76	0.20	6.82	0.15	6.68	0.28	3.19	0.32	5.82	0.16
Attention rating	22.79***	3.03	0.13	3.95	0.19	5.16	0.18	5.08	0.13	5.71	0.25	6.08	0.28	4.74	0.15
Liking rating	39.54***	4.03	0.10	4.81	0.15	6.48	0.14	6.23	0.11	6.21	0.20	6.04	0.22	6.14	0.11

Arousal rating	10.08***	3.38	0.14	4.10	0.20	4.90	0.19	4.82	0.14	4.82	0.26	5.46	0.30	4.64	0.15
Purposive listening	10.39***	-0.59	0.09	-0.37	0.12	0.19	0.11	0.28	0.09	0.20	0.16	0.42	0.18	0.37	0.09
Actively engaged listening	9.41***	-0.54	0.09	-0.24	0.13	0.51	0.12	0.21	0.09	0.37	0.16	0.61	0.19	0.24	0.10
Validation seeking listening	3.90***	0.09	0.08	0.11	0.12	-0.17	0.11	-0.05	0.08	-0.05	0.16	0.96	0.18	-0.16	0.09
Lethargy	4.52***	0.29	0.09	0.08	0.13	-0.12	0.12	-0.03	0.09	-0.20	0.16	-0.43	0.19	-0.46	0.10
Contentment	8.10***	-0.49	0.09	-0.28	0.13	0.28	0.12	0.39	0.09	0.10	0.17	-0.13	0.19	0.27	0.10

		Personal premade playlist		Premade playlist by someone else		Listened to the radio		Watched TV		Website streaming		Other	
Variable	F Value	Mean	S.E	Mean	S.E	Mean	S.E	Mean	S.E	Mean	S.E	Mean	S.E
Part of week	1.92*	1.24	0.05	1.23	0.08	1.19	0.03	1.38	0.06	1.10	0.09	1.38	0.10
Part of day	5.67***	2.63	0.10	2.54	0.16	2.34	0.05	3.22	0.11	2.48	0.17	2.44	0.20
Age	5.12***	28.55	1.75	34.19	2.70	36.76	0.92	33.44	1.85	27.71	3.00	31.75	3.44
Gender	1.06	1.45	0.06	1.42	0.10	1.46	0.03	1.31	0.07	1.48	0.11	1.31	0.12
Student status	8.89***	0.66	0.06	0.38	0.09	0.21	0.03	0.24	0.06	0.62	0.10	0.56	0.12
Music education rating	5.20***	1.60	0.09	1.50	0.13	1.50	0.05	1.53	0.09	1.81	0.15	2.19	0.17
Importance	3.74***	6.10	0.15	5.38	0.24	5.66	0.08	5.31	0.16	6.14	0.27	5.88	0.30

rating													
Average daily listening amount	3.10***	3.66	0.27	3.33	0.42	3.36	0.14	2.48	0.29	3.76	0.47	3.78	0.53
Choice rating	102.69***	6.74	0.21	4.15	0.32	3.98	0.11	3.25	0.22	5.90	0.35	4.31	0.41
Attention rating	22.79***	5.19	0.18	4.54	0.28	3.93	0.10	4.24	0.20	4.90	0.32	5.06	0.36
Liking rating	39.54***	6.15	0.14	5.50	0.22	4.93	0.08	4.58	0.15	5.95	0.25	5.75	0.28
Arousal rating	10.08***	5.08	0.19	4.42	0.30	4.01	0.10	4.13	0.20	4.81	0.33	4.88	0.38
Purposive listening	10.39***	0.37	0.12	0.13	0.18	-0.13	0.06	-0.48	0.13	-0.03	0.20	0.32	0.23
Actively engaged listening	9.41***	0.19	0.12	-0.12	0.19	-0.24	0.06	-0.21	0.13	0.35	0.21	0.40	0.24
Validation seeking listening	3.90***	0.23	0.12	-0.14	0.18	-0.13	0.06	-0.12	0.12	0.08	0.20	0.10	0.23
Lethargy	4.52***	-0.12	0.12	-0.15	0.19	0.17	0.06	0.19	0.13	-0.10	0.21	0.31	0.24
Contentment	8.10***	0.43	0.12	0.18	0.19	-0.15	0.06	-0.38	0.13	0.18	0.21	-0.21	0.24

Note. Degrees of freedom F (12, 910)

Note. * p <.05, ** p< .01, *** p < .001

Table 3.

Device x Selection Chi-Square Analysis

Device		I did not have any control	Someone I was with chose	Specific choice	It was performed live at the time	Random/ Shuffle	Playlist	Listened to the radio	Watched TV	Web/ Streaming	Total
Mobile Device	Count	4	5	81	0	65	46	8	0	0	209
	% within Device	1.9%	2.4%	38.8%	.0%	31.1%	22.0%	3.8%	.0%	.0%	100.0%
	% within Selection	3.0%	7.2%	33.6%	.0%	60.2%	44.7%	3.1%	.0%	.0%	20.2%
	% of Total	.4%	.5%	7.8%	.0%	6.3%	4.5%	.8%	.0%	.0%	20.2%
Computer Device	Count	8	15	65	2	31	34	7	0	26	188
	% within Device	4.3%	8.0%	34.6%	1.1%	16.5%	18.1%	3.7%	.0%	13.8%	100.0%
	% within Selection	5.9%	21.7%	27.0%	6.3%	28.7%	33.0%	2.7%	.0%	96.3%	18.2%
	% of Total	.8%	1.5%	6.3%	.2%	3.0%	3.3%	.7%	.0%	2.5%	18.2%
Stereo Device	Count	11	14	91	0	11	20	6	0	1	154
	% within Device	7.1%	9.1%	59.1%	.0%	7.1%	13.0%	3.9%	.0%	.6%	100.0%
	% within Selection	8.1%	20.3%	37.8%	.0%	10.2%	19.4%	2.3%	.0%	3.7%	14.9%
	% of Total	1.1%	1.4%	8.8%	.0%	1.1%	1.9%	.6%	.0%	.1%	14.9%
Radio	Count	34	21	0	2	1	0	233	1	0	292
	% within Device	11.6%	7.2%	.0%	.7%	.3%	.0%	79.8%	.3%	.0%	100.0%

	% within Selection	25.2%	30.4%	.0%	6.3%	.9%	.0%	90.7%	1.6%	.0%	28.3%
	% of Total	3.3%	2.0%	.0%	.2%	.1%	.0%	22.6%	.1%	.0%	28.3%
TV	Count	28	12	2	0	0	1	3	60	0	106
	% within Device	26.4%	11.3%	1.9%	.0%	.0%	.9%	2.8%	56.6%	.0%	100.0%
	% within Selection	20.7%	17.4%	.8%	.0%	.0%	1.0%	1.2%	98.4%	.0%	10.3%
	% of Total	2.7%	1.2%	.2%	.0%	.0%	.1%	.3%	5.8%	.0%	10.3%
In public	Count	50	2	2	28	0	2	0	0	0	84
	% within Device	59.5%	2.4%	2.4%	33.3%	.0%	2.4%	.0%	.0%	.0%	100.0%
	% within Selection	37.0%	2.9%	.8%	87.5%	.0%	1.9%	.0%	.0%	.0%	8.1%
	% of Total	4.8%	.2%	.2%	2.7%	.0%	.2%	.0%	.0%	.0%	8.1%
Total	Count	135	69	241	32	108	103	257	61	27	1033
	% within Device	13.1%	6.7%	23.3%	3.1%	10.5%	10.0%	24.9%	5.9%	2.6%	100.0%
	% within Selection	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	13.1%	6.7%	23.3%	3.1%	10.5%	10.0%	24.9%	5.9%	2.6%	100.0%

Table 4.

Device x Selection Method Reported Frequencies

Device	I did not have any control	Someone I was with chose	Specific artist	Specific album	Specific song	It was performed live at the time	Random/ Shuffle	Personal premade playlist	Premade playlist - made by someone else	Listened to the radio	Watched TV	Website streaming	Other	Total
Mobile MP3	1	2	21	27	3	0	62	20	4	2	0	0	2	144
Mobile phone	2	1	8	8	6	0	3	19	0	4	0	0	1	52
Mobile CD	1	2	3	5	0	0	0	2	1	2	0	0	0	16
Computer - own	5	8	18	19	7	1	25	21	1	1	0	0	7	113
Computer - stream	2	7	8	2	5	0	1	1	3	6	0	26	0	61
Computer - cloud	1	0	2	4	0	1	5	6	2	0	0	0	1	22
Stereo - mp3	6	5	7	10	4	0	10	5	4	0	0	1	0	52
Stereo - CD	5	9	9	55	6	0	1	3	8	6	0	0	0	102

Radio	34	21	0	0	0	2	1	0	0	233	1	0	2	294
TV	28	12	0	1	1	0	0	0	1	3	60	0	1	107
In public - live	7	1	0	0	2	26	0	0	0	0	0	0	5	41
In public - recorded	43	1	0	0	0	2	0	0	2	0	0	0	0	48
Total	135	69	76	131	34	32	108	77	26	257	61	27	19	1052