YOUNG PEOPLE'S EMOTIONAL ENGAGEMENT WITH MUSIC VIDEOS: AN EXPLORATORY STUDY

Johanna N. Wilson

Master's Thesis

Music, Mind and Technology

Department of Music, Art and Culture Studies

June 1, 2018

University of Jyväskylä

Tiedekunta – Faculty Humanities	Laitos – Department Department of Music, Art and Culture Studies
Tekijä – Author: Johanna Nancy Wilson	
Työn nimi – Title Master's Student	
Oppiaine – Subject Music, Mind & Technology	Työn laji – Level Master's Thesis
Aika – Month and year June 2018	Sivumäärä – Number of pages 44 (58 with references and Appendices)

Tiivistelmä – Abstract

Music serves an important psychological function during youth, particularly when it is used as a tool for regulating affect. The contexts in which youths can engage with music have changed as a result of new technology and social media sites. Music videos (MVs) have become more accessible as a result of these changes, allowing youth listeners to engage with audio-visual media from virtually anywhere. Music psychology research can benefit from a better understanding of how information from MVs affects emotional and perceptual outcomes during music listening, particularly in youth audiences. The current study aimed to investigate this underexplored phenomenon. It employed qualitative and quantitative methodologies in order to gain insight into youth experiences with MVs, as well as understand how individual differences such as healthy music use and personality contribute to these outcomes. Content analysis revealed MVs had the ability to influence emotional and perceptual outcomes, both during the MV watching episode and during subsequent audio-only listening episodes. Furthermore, statistical analyses found evidence suggesting individual differences play a role in the types of outcomes the individual experienced, however, findings from the qualitative analysis revealed other traits such as empathy and ability to show agency may also mediate the affective outcomes from MVs. Results from this study provide novel insights into the MV watching phenomenon and provides a framework for future research in the topic.

Asiasanat – Keywords Music videos, youth, emotion, perception, exploratory study	
Säilytyspaikka – Depository	
Muita tietoja – Additional information	

JYVÄSKYLÄN YLIOPISTO

Acknowledgments

I have been blessed to have such amazing friends and family support me every step of the way. I could not have accomplished this thesis if it weren't for the help and support of others. I would like to thank my parents, David and Darlene Wilson for everything they've done in order to help me to get this far. To my big sisters Jessica, Vanessa and Heather: thank you for staying close no matter how far away from each other we are. To my best friends, and chosen family, Stefani and Connie, thank you for always being around.
And to Randall, whose love and support kept me going through the very end. And thanks for keeping company during this adventure.

I would like to thank all my professors, past and present, for their help and guidance, especially to Marc Thompson and Geoff Luck: thank you for all that and for admitting me to the MMT program. I would also like to thank all my peers, professors and staff in the MMT and MT programs, and the University of Jyväskylä.

This thesis would not be possible without the help and supervision of Dr Suvi Saarikallio. Thank you for everything you've done and for helping me get this far and for showing enthusiastic interest in this project from day one.

This thesis is dedicated to my amazing and gifted nephews, Cruz and Seth Carson.

Table of Contents

1. INTRODUCTION

The Internet has made music-listening more accessible than ever before. Technology such as smartphones, and older technology such as mp3 devices, have allowed us to bring music with us virtually anywhere. Social media websites such as Facebook and Twitter allow users to "share" music and other media such as music videos from other social media sites such as YouTube. Technological advancements occur so quickly that it is undoubtedly difficult for researchers to keep up with new listening contexts as they gain more popularity. Adolescent and young adult audiences arguably have the most experience with this type of media, as it has developed significantly over the course of their young lives. Recent research has provided new insights into music listening and its ability to evoke emotions (Juslin et al., 2008), as well as its ability to regulate affect across all stages of life (Saarikallio & Erkkilä, 2007; Saarikallio, 2011). Music videos (MVs), on the other hand, have received little attention from music psychologists. MVs are an example of how technological advancements have made music listening more accessible than they were in previous decades, especially via social media platforms. Although previous research has analyzed the role of context in music listening outcomes (Liljeström, Juslin, & Västfjäll, 2013; Randall & Rickard, 2017), there has been little empirical research to date exploring MVs, which are a unique form of music media as they provide a visual narrative to accompany the music.

In the past, during the 1980s and 1990s when MVs were first gaining popularity and were being broadcast on television channels such as MTV, research was conducted that provided novel insights into this kind of musical engagement. For example, research by Goldberg and colleagues (1993) found evidence that MVs can help slow down wear-out effects from over-listening, especially when the video was ambiguous or left open-ended. This research has not been kept up to date, however, and does not encompass any of the new contexts provided by technological advancements and social media. Social media websites are particularly important, since they allow individuals to select the media *they* want to see, instead of hoping their favourite videos will be aired on television. A recent study conducted by Google (see Price, 2017) reported that YouTube was rated the most "cool" by North American youths, beating a number of other social media platforms such as Facebook and Twitter. Although YouTube does not provide demographic information about its users, a number of studies conducted by academics (e.g. Liikkanen & Salovaara, 2015) and investigation firms such as the Intelligence Group (see Bennett, 2014) indicated that it is one of the most popular social media platforms among youth. Although there are a variety of other types of video media on YouTube, as of May 2018, MVs make up 94 of the 100 viewed videos on the site. This sheds light on a new question: how do a person's experiences with

MVs effect their experience with the music? Do these effects have any relationships with or implications on the individual's future use music to regulate affect? This is particularly relevant when we consider the audience watching MVs: young people. The current generation of young people have been brought up with these new technologies, and it can be argued that most of their developing lives have been influenced in some way by the Internet. An important distinction for this generation is the factor of control, which research has discovered is another key component to every day listening experiences (Krause, North, & Hewitt, 2015; Krause & North, 2017). Unlike the early days of MVs, they do not have to rely on the video they want to see being broadcast on television: they can choose which ones they want to see. In addition to this, YouTube's recommendation feature suggests other MVs based on the ones they have previously seen, making for a more personalised MV watching experience than what was offered when they were first being examined by at the end of the 20th century. Music continues to serve an important role for their psychological development (Laiho, 2004), however there has been no research to date which looks at how these evolving musical contexts shape the individual's experience. Music psychology research can benefit from a better understanding of these new music listening contexts if it wants to remain relevant, especially given the pace at which technology is currently advancing.

Previous research has given us a better understanding of how visual information effects the perception of music, particularly in respect to how the emotional quality of the music is perceived and remembered (see Boltz, Ebendorf, & Field, 2009). This type of research is often, if not exclusively, carried out in laboratory settings with artificial stimuli created by the researchers in order to answer a specific research question. This type of research is also often applied to film music (see Cohen, 2001) however, film music is either chosen for, or composed specifically to accompany the *film* whereas MVs are created with the intent of accompanying (as well as promoting, marketing and distributing) the music. Although this previous research is not without merit, understanding how these audio-visual interactions apply to a modern everyday listening activity is integral when we consider the number of devices we use daily (i.e. smartphones, laptops) that make MVs accessible. I believe that MVs provide an opportunity to research and better understand how audio-visual interactions and their psychological implications apply during MV experiences, which, as previously mentioned, reflect new, underexplored methods of everyday music listening which music psychologists need to consider. This is integral for this branch of research in order to apply or expand upon current understanding and reflect modern listening trends.

The aim of the study was to conduct the first exploratory study designed to understand individuals' experiences with MV media. It was particularly interested in MV as an everyday music listening activity and speculated whether individual variables related to personality and healthy

music use were a contributing factor in mediating experience outcomes. A mixed method study was designed in order to better understand the *key features* of the individuals experience with MV media, such as when they watched MVs and what type of outcomes they experienced. There were three main aims to the study:

1) What are the key features of the MV experience?
2) How do these key features relate to each other (for example, do certain reasons for watching lead to certain cognitive or emotional outcomes?)
3) How do individual factors such as personality and healthy listening habits help explain these key features of the MV experience?

The first two aims of the study are addressed in the study's questionnaire component, which was designed to acquire detailed responses about the subject's experiences with MVs. Since the open-ended questionnaire component was mainly exploratory, I did not set any predetermined hypotheses for the first two aims, only some preliminary expectations based on previous research and literature mentioned earlier. The first aim is addressed in the content analysis, which highlights three levels of the MV experience: Antecedents, Experience Outcomes and Subsequent Outcomes. The second aim was addressed by conducting Chi-square tests of association in order to establish any relationships among categories within the same level (i.e. relationships between categories at the Antecedent level), as well as between categories from different levels (i.e. relationships between categories from the Antecedent and Experience Outcome levels). Furthermore, because this topic has been largely ignored by music psychologist researchers it was decided that, in order to narrow the scope of the study, a series of quantitative measures were employed in order to focus on how this type of music listening experience compared to music listening for emotional health and well-being purposes. For this reason, the third aim of the study *was* hypothesis driven, but it is important to note, however, that the quantitative component of the study was secondary to the qualitative component. Findings from the survey data were intended to compliment findings from the content analysis.

The third aim of the study was to better understand how individual differences such as personality, the use music for mood regulation and healthy music listening habits explain the types of outcomes individuals experience from watching MVs. There were two hypotheses: first, that individuals high in certain traits (specifically neuroticism, extroversion and openness) would exhibit the same or similar emotional outcomes in audio-only listening and MV watching. For example, individuals high in the trait openness should report strong experiences to the music (Gabrielsson & Wik, 2003), extroverts would be more susceptible to positive affect in music, and those high in neuroticism would be more susceptible to negative affect in music (Vuoskoski & Eerola, 2011).

Furthermore, as an extension of this hypothesis, it was speculated that subjects with high neuroticism scores would have unhealthier listening habits and therefore more negative outcomes as a result of MV watching (Chin & Rickard, 2014; Randall & Rickard, 2017). The second hypothesis was that affective outcomes from watching MVs may have future implications on how the individual perceives the music, based on research which suggests that audio-visual interactions can have significant effects on how the music is perceived and remembered in subsequent listening episodes (Boltz, Ebendorf, & Field, 2009). This would especially be the case for individuals with a high risk or proneness to negative emotional health. The third aim provided testable hypotheses which helped explore any connections between the concepts described in the content analysis and the collected survey data in order to attain a better idea of how MV watching is related to the use of music for affect regulation purposes.

Young adults and adolescents were the best participants for this type of study since music is especially important during this stage of life. MVs are a unique form of media young audiences can use to explore their "private self", as described by Larson (1995). The visual component of MVs in general also require the individual to pay more attention, whereas audio-only listening is often a secondary activity: playing in the background during chores, travelling, and other activities (Juslin et al, 2008; Randall & Rickard, 2017). It was also speculated that the social media aspect might factor into their experience, perhaps as a result of "trending" artists, or updates from artists they follow.

The study employed a convergent design using both qualitative and quantitative methodologies to explore the issue. This type of design was appropriate for this study; the qualitative data contained detailed descriptions of the individual's reasons for watching MVs over other media, what types of psychological processes occurred during the experience, and how that experience contributed to subsequent listening experiences with the same song. By transforming qualitative categories into nominal data, relationships between individual variables and typical experiences could be analyzed as well. Due to the exploratory nature of the study and the absence of predetermined hypotheses for the first two aims, the open-ended questionnaire component was designed to encourage detailed descriptions about participants' experiences. Content analysis from the qualitative component uncovered themes about the individual's reason for choosing MVs, what types of emotional outcomes or thought processes they had while watching, and whether (and if so, how) information from the MV effected subsequent listening episodes. Statistical analyses provided insights into the role of the individual variables measured in the survey component in order to address the hypotheses. Overall, the study aimed to provide a detailed analysis of individual's

experiences with MV media, as well as examine whether or how the outcomes from these experiences relate to the individual's use of music for emotional health and well-being purposes.

Not only did the study successfully accomplish its goal to provide new insights about individuals' experiences with MVs, it also shed light on how our everyday experiences with music are changing as a result of portable technology and social media. It provided evidence that show MVs can have profound and often long-term consequences on how the individual perceives the song, as well as trigger certain responses and thought processes in future listens that did not occur before watching the video. By analyzing these results in respect to the individual's personality and use of music for emotional health and well-being purposes music psychologists can continue to advance our understanding of these everyday listening activities and their psychological function, especially during youth.

2. LITERATURE REVIEW

2.1 Music and emotion

A large body of research has been conducted over the last two decades researching whether and how music evokes emotion. This research has shed light on the mechanisms involved in music evoked emotion, as covered in the BRECVMA model (Juslin et al, 2008; Juslin, 2013). This model attempts to explain the means by which music is capable of evoking emotions individuals, by means of: *brainstem reflexes, rhythmic entrainment, evaluative conditioning, emotional contagion, visual imagery, episodic memory, musical expectancy*, and *aesthetic judgement*. Furthermore, research has shown that listeners can *feel*, not only perceive the emotions in music (Juslin, Harmat, & Eerola, 2014). Although research has advanced our understanding of music and its connection to human emotions, researchers have also cautioned that how these mechanisms are employed vary greatly between individuals.

Research on music evoked emotion has uncovered a number of interesting insights, however there are still many discrepancies and misunderstandings surrounding the topic. Researchers interested in emotion and emotion regulation have asserted that individuals seek out experiences with hedonic consequences while avoiding negative ones in order to maintain or create positive affective experiences (Larson, 2000). Studies looking at music evoked sadness have uncovered, paradoxically, that listening to sad music can evoke positive emotions (Garrido & Schubert, 2013; Peltola & Eerola, 2016). Garrido and Schubert (2011) revealed a positive correlation between reports of enjoying sad or *"negative"* music with the traits absorption and musical empathy, suggesting that individual traits may contribute to the enjoyment of sad music. Furthermore, in a study by Peltola and Eerola (2016) uncovered three different types of sadness in response to negative music: *Grief, Melancholia,* and *Sweet Sorrow.* Their findings suggested that sadness in response to music depends on contextual aspects of the individual's listening experience, such as memories they associated with the music. According to Peltola and Eerola, experiencing negative emotions such as sadness from music can have positive outcomes in the long term by helping individuals move past negative feelings. Understanding music evoked sadness is beyond the scope of the present study, however, understanding that these paradoxes exist help provide a better understanding of the complex emotional and psychological processes involved in music listening.

Some individuals genuinely enjoy sad music, finding aesthetic pleasure in its emotional character, even if they do not need the music to help them get over any sadness of their own. According to Juslin and Laukka (2004), the types of emotional responses during music listening depends on the individual's reasons, or *"primary motive"* for listening. They define emotions as

reactions to immediate changes in the person's environment, which are formed by a number of factors related to the individual's cognitive appraisal, subjective feelings, physiological arousal, emotional expression, action tendencies and emotion regulation tendencies. Although research has given us a better understanding of music evoked emotions and how they are perceived by the listener, the number of factors contributing to this phenomenon suggest the social context of music listening has been largely ignored (Juslin & Laukka, 2004). Further research has analyzed how situational factors also contribute to the emotional outcomes, including social contexts, listener personality and music choice (Liljeström, Juslin, & Västfjäll, 2013). Listening to music on mobile phones has also increased over the last decade, prompting the need for more search which analyzes these listening contexts (Randall & Rickard, 2016; 2017). A growing number of studies have used Experience Sampling Methods (ESM) in order to overcome the limitations of experimental designs, which are vulnerable to recall bias, and acquire a better understanding of everyday music listening contexts. This is especially relevant for future research investigating effects music evoked emotions and MVs, since the contexts for engaging in this musical activity are not necessarily the same or comparable to audio-only music listening episodes.

There has been no research to date which analyzes the MV listening experience, however, they provide a unique listening context in which to explore our current understanding of music evoked emotions and their connection to context. One of the most important developments for MV media are its connection to social media and YouTube. As previously mentioned, individuals can now access MVs *they* want to see at virtually any time. Having a choice in the music also has implications on listening outcomes. Research has observed that listening to music on devices that allow for personal music collections (and not public broadcasting such as radio) enabled positive outcomes such as contentment and motivation (Krause, North and Hewitt, 2015). Research has also investigated the role of dominance in personalized music listening settings and its relationship to every day music listening and musical judgement (Krause & North, 2017). Although these studies do not pertain to music evoked emotion *specifically*, they do shed light on how context can shape listening episodes and yield certain listening outcomes as a result.

A significant body of research has been dedicated to understanding music evoked emotions. Despite this, there are a number of factors which contribute to how these emotions are experienced. Individual differences in respect to age, gender, and personality (Vuoskoski & Eerola, 2011; Saarikallio, 2013), as well as situational variables are all major factors contributing to emotional responses to music (Liljeström, Juslin, & Västfjäll, 2013). The following section examines research on how individual differences contribute to music evoked emotion.

2.1.1 Individual differences in music evoked emotion

There are a number of factors which can contribute to the types of emotions a person experiences during music listening episodes. Where, why and how a person is listening are important components to the experience, however it could be argued that much of the variation for music evoked emotion can come down to *who* is listening. Recent studies have discussed the role of individual variables such as personality (Vuoskoski & Eerola, 2011; Liljeström, Juslin & Västfjäll, 2013), gender and cognitive styles (Kreutz, Schubert, & Mitchell, 2008) and how they contribute to music listening outcomes. This research has shed light on the complexity and variability of music evoked emotions as they relate to the individual.

Personality is a salient factor which contributes to emotions experienced in music. Research has been conducted suggesting different personality types tend towards certain emotion regulation strategies over others (e.g. Larson, 2000; Gosling, Rentfrow, & Swann, 2003) have furthered our understanding of how it contributes to the individual's listening experiences. Liljeström, Juslin and Västfjäll (2013) found individuals low in emotional stability experienced more negative and fewer positive emotional outcomes from music listening, whereas individuals high in traits extroversion, openness and agreeableness correlated with more positive emotions and fewer negative emotional outcomes experienced from music listening. They also found the trait conscientiousnes*s* correlated with less sadness, anger and irritation from music listening. This may suggest that some personalities lean towards certain regulation strategies over others based on their emotional tendencies. Vuoskoski and Eerola (2011) found that positive music evoked a milder emotional response when it was incongruent with the individual's current mood, however the same was not true of music with negative emotional quality. Their study also reported that individuals high in extroversion were more susceptible to music with positive affect, whereas individuals low in emotional stability were more susceptible to negative affect in music. In contrast, agreeableness correlated to high intensity responses to tender music, the prosocial nature of that personality and their tendency towards empathy (Vuoskoski & Eerola, 2011). The study concludes that personality and initial mood state are significant factors that account for individual differences in music-evoked emotion.

Research has also looked at the effect of cognitive styles on music listening. Kreutz, Schubert, and Mitchell (2008) analysed music listening in respect to two cognitive styles: music empathising (ME) referred to individuals who respond to feelings in music and report feeling them too, whereas music systemisers (MS) respond to structural features of the music. Their results conclude that individuals do not tend to show higher scores in one category over the other, however

they did report a difference between genders. This is consistent with other research which reports that women tend to rate higher in the trait *agreeableness*, a trait associated with pro-social behaviour and empathetic tendencies (Gosling, Rentfrow, & Swann, 2003). Similar results were reported by Chamorro-Premuzic and Furnham (2007), who analysed music listening in respect to three cognitive styles depending on whether the individual used it to regulate emotion, for cognitive and rational thinking purposes, or in the background. They investigated how these styles correlate with personality and posited that neurotic, introverted and non-conscientious persons tend towards music for emotion regulation. This is consistent with other research which has concluded that individuals who score low in emotional stability tend to be more sensitive to affect in music (Juslin & Laukka, 2004; Vuoskoski & Eerola, 2011). Individuals with high scores in the traits openness and conscientiousness also tend to use music for cognitive reasons (Chamorro-Premuzic & Furnham, 2007). Furthermore, openness is associated with experiencing *strong sensations* from music listening (Gabrielsson & Wik, 2003)

One of the factors Juslin and Laukka (2004) asserted contribute to emotions evoked by music relates to the person's emotion regulation tendencies. Music's ability to evoke emotions are also discussed in respect to how it can be used to regulate affect by helping them achieve desired hedonic outcomes. The following section examines research on the use of music for affect regulation, and how it can be used to promote healthy well-being in individuals.

2.2 Music and Well-being

Music's ability to evoke emotion has made it an increasingly popular topic of discussion in respect to music and health. This research has examined the ways music can be used to regulate moods and emotions over the course of life, from adolescence (Saarikallio & Erkkilä, 2007) to adulthood (Saarikallio, 2011; 2013). According to Larson (2000), moods differ from emotions in both their cause and duration: emotions occur as a result of changes in environment, whereas moods may occur for no particular reason and last over a prolonged period of time. They occur internally and provide individuals with the information they need in order to meet the demands of their environment. Being able to control emotional response tendencies enables social competence, which in turn promotes better emotional health and well-being (Gross, 1998; 1998b). Gross (1998) describes two types of emotion regulation strategies: antecedent- and response-focused. Antecedent-focused regulation strategies involve changing something about the individual's environment in order to avoid a negative emotional outcome: for example, avoiding an angry neighbour. This type of regulation strategy focuses on modifying or avoiding situations which will

elicit negative emotions. It is considered a more effective than response-focused strategies, which require the individual to have already experienced a change in emotion. The focus is to change the negative emotion by means of behavioural or physiological measures such as taking a deep breath or counting to ten.

Studies have shown that music is a useful and effective tool for regulating affect. It is just as useful as other regulatory strategies, for example, talking to friends and socializing in order to take one's mind off of negative thoughts or feelings (van Goethem, & Sloboda, 2011). Previous research has identified a number of strategies used by individuals when listening to music to regulate affect (Saarikallio & Erkkilä, 2007; van Goethem & Sloboda, 2011). Although they have provided valuable insights, study design has been limited to data collection methods subject to recall bias. More recent studies have implemented ESM designs in order to overcome this limitation (Sloboda, O'Neill, & Ivaldi, 2001; North, Hargreaves & Hargreaves, 2004; Randall & Rickard 2016; 2017). These studies have provided more insights into everyday music listening, particularly in respect to when individuals use music for affect regulatory purposes. In a study by Randall and Rickard (2017), listening to music for emotional reasons made up less than one third of all reasons for music listening, and occurred when the individual was already experiencing negative affect. Music listening was used as a response-focused emotion regulation strategy that succeeded in helping the individual reduce negative affect, however it was also associated with poor emotional health and well-being (Randall and Rickard, 2017).

Findings form ESM studies have provided valuable insights, however further research is necessary in order to comprehend the ways in which music helps regulate affect by *maintaining* affect, not necessarily to change it. In their integrative review, Baltazar and Saarikallio (2016) found that research on music and affect focus on four levels: goals, tactics, strategies and mechanisms. Goals can be achieved through tactics such as music listening, composing or playing. Strategies can be implemented to achieve certain outcomes; however, these outcomes are not always positive, despite the intent of the listener. For example, Chin and Rickard (2014) investigated the relationship between mental well-being and music listening for emotion regulation in light of two emotion regulation strategies: *cognitive appraisal* and *expressive suppression*. Their results suggested emotional outcomes depended on the type of music engagement. Negative subjective, psychological and eudemonic outcomes from music listening were reported in the cases when individuals used music for social connection, suggesting a link between this use and poor mental well-being. Furthermore, the use of music for engaged production and social connection correlated positive with regulatory strategy *expressive suppression* (Chin & Rickard, 2014).

Overall, the study found evidence to support that strategies for emotion regulation and type of musical activity are key factors in determining emotional outcomes from music listening.

People respond to music differently depending on individual traits such as personality or empathy. A great body of research has also analyzed how music for affect regulation varies among individuals, as well as over the course of life. The following section looks at the use of music for affect regulation during adolescence; this is especially relevant to the current study, which sample consists of adolescents and young adults.

2.2.1 Music and well-being during youth

Previous research has analyzed the ways in which adolescents use music for emotion and mood regulation and the implications this has on their psychological development, mental health and well-being (Laiho, 2004; Saarikallio & Erkkilä, 2007; Saarikallio, 2008). Saarikallio and Erkkilä (2007) define mood regulation as "processes directed towards modifying or maintaining the occurrence, duration and intensity of both negative and positive moods." Furthermore, posited that music listening for mood-regulation purposes is important during adolescence and one of the most common reasons for engaging in musical activities. In their study, Saarikallio and Erkkilä observed seven strategies by which adolescents used music for mood regulation purposes, which they labelled: *entertainment, revival, strong sensation, diversion, discharge, mental work,* and *solace.* The researchers reported that participants did not intentionally choose to listen to listen or take part in musical activities with the intention of changing or maintaining their mood, however, they knew what type of music they wanted to listen to. This suggested that they did not consciously use music for mood-regulation purposes, however their decisions to listen to a particular type of music suggested they were still listening for mood-related reasons. Musical activities were capable of regulating the valence, intensity and clarity of affective experiences. Music allowed participants to move past negative feelings towards more positive feelings, inferring that music did help them achieve a more positive mood. Although these types of hedonic outcomes may not have been a conscious goal for the individual, these outcomes are intrinsic for the maintenance and regulation of desired mood states (Randall, Rickard, & Vella-Broderick, 2014; Larson, 2000).

While acknowledging that music is a useful tool for affect regulation, researchers have also investigated the possible negative outcomes occurring as a result of unhealthy listening habits. This is particularly the case during adolescence, which is often characterized as a time of emotional restlessness (Laiho, 2004). In order to better understand these outcomes, researchers have developed measures aimed towards understanding the underlying mechanisms at work in music

listening for these purposes, and to establish quantitative measures for healthy and unhealthy music listening habits in youth listeners (Saarikallio, Gold, & McFerran, 2015; Saarikallio & Erkkilä, 2007).

Many young people (adolescents in particular) believe that music will inherently make them feel better when they are down, however they are not always aware of the times when music listening does the opposite (McFerran & Saarikallio, 2013). McFerran and Saarikallio (2013) conducted a study with adolescents who reported times when listening to music did not have positive outcomes despite having used it for the purpose of feeling better. The authors discuss how the idea that certain music can primes certain behaviours has been a popular assumption in research and the general public, however this is not the case for all individuals who listen to these "problem genres". The researchers concluded that adolescents need to learn to take responsibility and recognise when listening to music is not serving its intended purpose. Furthermore, they posit that individuals who depend on music to make them feel better are often those who end up feeling worse, since they use it as a tool to ruminate on their problems instead of working through them.

2.3 Music media during youth

Music media is available in a variety of forms and is an integral resource for adolescents to educate themselves about social roles, consumerism and culture. Hansen and Hansen (2000) suggest that while media is beneficial for adolescents on a psychosocial level, the information media provides can have detrimental effects on youth when it is presented in the forms of extreme stereotyping, violence, and sexual promiscuity. The Internet and smartphones allow adolescents to access many kinds of media at virtually any time of day, including musical media such as MVs. Although YouTube does not disclose information concerning its user demographic profiles, a number of studies conducted by academics (see: Liikkanen & Salovaara, 2015) and investigation firms such as the Intelligence Group (see: Bennett, 2014) indicate that it is one of the most popular social media platforms among youth. According to North, Hargreaves and O'Neill (2000), music is important to adolescence for two main reasons: as a means of constructing their own personal identity, and to fulfil their emotional needs. Previous research has observed the importance of music and music media during adolescence from different angles, including adolescents' use music for mood-regulation, and the use of music in identity formation (Laiho, 2004). The effect of music media on adolescents' perception of themselves and others based on musical taste has also been of

interest. Most of these studies focus almost exclusively on audio-only music listening, while very few analyze MVs at all.

In one of the earliest studies using experience sampling methods (ESM), Larson (1995) revealed that adolescents use media alone in their bedrooms as a means of exploring what he refers to as their "private self". One of the consequences of spending more time alone are the negative feelings associated with loneliness. Larson reports on how adolescents begin to spend more time alone in their bedrooms listening to popular music than watching TV. Although TV watching decreases during adolescence, Larson observed an exception for channels like MTV, which primarily airs MVs and other musical media. This may be due to the themes of popular music being more relatable to adolescents, who listen to music during their alone time as a means of regulating these negative feelings. Social media is a relatively new source in which adolescents and young adults consume a variety of different forms of media. According to Miranda (2013), there is a severe lack of communication between the fields of music psychology and developmental psychology. In his review of previous studies, he suggests better communication between these fields can help researchers catch up with contemporary media use during adolescents. Miranda (2013) highlights seven aspects of development influenced by music: identity, socialization, aesthetics, emotion regulation and coping, personality and motivation, gender roles and positive youth development. Factors pertaining to the individual's personality, the context in which they consume media, and the music they listen to are important for identifying the potential risk that occur as a result of music media consumption. A better understanding of the relationship between these factors contribute to the risk of poor psychological health, social development and delinquent behaviours can aid the development and implication of intervention and prevention strategies for adolescent media use.

Media consumption has changed since Larson published his ESM study in 1995, however his research shows how music and music media are important resource for adolescents and their psychological development.   Studies that analyse music media consumption from the perspective of social cognitive theory observe the extent to which adolescent self-concept is influenced by the media they consume. In a study conducted by Kistler et al (2010), which concluded that adolescent self-concept is affected by mediated by "wishful identification", which they described as the extent to which youth desire to be like their favourite media characters both during and outside of media use. This type of engagement leads to a *parasocial interaction*: the perceived relationship adolescents develop with these preferred media character. The results of their study concluded that music media is utilised by adolescents as a tool for social comparison, however some of these

perceived relationships adolescents develop with media characters do not always have positive implications. This suggests that while media use is an important tool for adolescent social and psychological development, it is important that adolescents learn to develop healthy media and music consumption tendencies and use critical thinking skills when assessing its content (Kristler et al, 2010).

Researchers who study media consumerism note that there are several factors which contribute to its influence on psychological processes (Boltz, 2013; Shevy, 2013). These factors, which Shevy (2013) refers to as the six antecedents of media consumption are: *user attributes, context, time, media content, media form*, and *interactivity*. Why an individual chooses to engage in media is central to use and gratification theory, and may be influenced by the individual's age, environment, musical background and personal preferences. The individual user's cognition sets the threshold for how much media can affect their behaviour or thinking patterns. The impact it has on one person may not be the same for another. This also highlights the importance of context, where the individual's cultural, social and historical backgrounds contribute to how they perceive and interpret media. Media may reinforce certain belief patterns held by the user regardless of whether these patterns are based on short or long-term preferences. The amount of time the individual spends engaging with media may result in the culminated effects, strengthening certain attitudes over time. Their strength may also fluctuate over time based on contextual factors (Shevy, 2013). Other researchers have also examined that personality traits can be predictors of media use; for example, neuroticism has been observed to be a negative predictor of social media use, whereas extroversion is a positive predictor (Correa, Hinsley, & de Zuniga, 2010). More research needs to be conducted in order to establish any relationships between personality and media use, since other confounding variables, such as preferred social media platforms or social habits may also be at work. This may be an important factor when considering MVs, which also feature an interactive component when viewed on social media as individuals are able to comment, share, and like posts, or remain anonymous if they prefer (Liikkanen & Salovaara, 2015).

Analysing these antecedents in the context of adolescent and young adult media use allows for the speculation of how it contributes to the individual's health and well-being. Research has analysed the effects of media in respect to how they can alter the individual's affective state (Randall & Rickard, 2014; Saarikallio & Erkkilä, 2007), cognition and behaviour in order to come up with appropriate intervention and mediation strategies (Miranda, 2013; Mastronardi, 2003). Despite these analyses, there is still a large gap in understanding in respect to MVs, which have been analyzed less as a form of musical engagement and largely ignored by music psychologists.

2.5 Audio-Visual Interactions and Perception

The ways in which audio and visual information interact with each other has been of interest for music psychologists and cognitive scientists. Of particular interest is whether or not the content of videos can enhance or impair what an individual remembers from either modality, how music can clarify the emotional intent of a video, and how visual information is utilised in the evaluation of a musical performance. Music's ability to evoke emotion in a bimodal context is often analysed in respect to film music (see Cohen; 2001, 2013). Although studies have analyzed MVs, very few of these studies use real MVs as a stimulus, and fewer include self-reports or self-selected MVs as part of their study design. Despite this, studies that have examined the relationship between music and video have provided useful information about how these two modalities affect emotional engagement, how the content is understood, and what is retained by the audience.

Marshall & Cohen (1988), found that shared structural congruencies between audio and visual modalities reinforced semantic meaning of the scene. This lead to the creation of the Congruence-association model (CAM), which describes the cognitive-processes involved in decoding music in film, including where attention is directed to in the video and how previous memory associations lend to the interpretation of meaning. This model asserts that attention is directed to structural congruencies between modalities as a result of bottom-up cognitive processes: organizing semantic and structural information into coherent chunks and directing attention to particular objects or events as a result of gestalt grouping principles (Cohen, 2001; Marshall and Cohen, 1988). Working memory can then prioritize attending to these audio-visual congruencies, thus creating a working narrative of the scene (Bolivar, Cohen & Fentress,1994; Marshall & Cohen, 1988). CAM was originally used to explain the role of music in film, however these principles may extend to explain how MVs influence the perception of affective and structural features of the music in subsequent experiences. It suggests that music can help infer the meaning from what is presented in the visual modality, as a result of attention being directed to these shared congruencies. This can include inferring affective associations towards a character or object in the film. These new inferences are a result of both top-down and bottom-up cognitive processes, where information in short-term memory (STM) from visual narrative, including emotional and visual cues are processed based on information already stored in long-term memory (LTM). These inferences can then form new understandings, or associations, to the scene (Cohen, 2001; 2013).

Boltz, Schulkind and Kantra (1991), believed when the two modalities are affectively congruent (same emotional quality) they direct the listener-viewer's attention to shared formal features of both modalities. This contrasts with Cohen's (2001) model, which suggested that temporal (e.g.

structural) congruencies were the source of this new meaning. Boltz, Schulkind and Kantra's study looked at the effect of background music on remembering filmed events in order to investigate how music inferred meaning on a scene. When music and scene were affectively congruent, subjects remembered the scene better than if the music is incongruent with the mood of the scene or if no music was present at all. Interestingly, when music foreshadowed events in the next scene (but were still incongruent with what was occurring in the scene) the outcome of the scene was better recalled, perhaps as a result of the music confirming their expectations as to what was to occur next (Boltz, Schulkind, & Kantra, 1991).

Studies in audio-visual interactions suggested that individuals integrate semantic and formal information between modalities in order to interpret the scene. Bolivar, Cohen and Fentress (1994) conducted a series of experiments which examined how individuals used semantic and formal information. The first examined whether subjects in the audio-visual condition would agree on which pair was more temporally congruent, as well as whether this congruency would influence the interpretation of the scene's meaning. Bolivar, Cohen and Fentress hypothesized that the extent to which the video was synchronized with the music would affect whether it succeeded in influencing the subjects interpretation of the scene. The results of the first experiment supported the theory that temporal congruency was more likely to be reported by subjects if the moods of both modalities were congruent. Interestingly, if the video showed an aggressive scene (compared to a friendly one) subjects were more likely to say the music was congruent with the video, even if it was not. This might be explained by some objects in the film being more temporally congruent with the music, therefore having more attention directed towards them and facilitating the false perception of semantic congruency. In the second experiment they found significant agreement among subjects when assessing temporal congruencies. Interestingly, temporal congruencies were considered as such when they were also *semantically* congruent, as well as when the visuals featured scenes of aggression. In the third experiment they sought to uncover whether the participants could ignore the audio and focus on the video. In this experiment, participants were less influenced by the music (whether it was aggressive or friendly) if it was incongruent. Participants were not instructed to pay attention to the music, but only to rate the film. They discovered that the background music helped the audience make judgements about the visual information on the film, rating them higher on the dimension (friendly - aggressive) when the congruent background music was playing.

According to Boltz (2013), music can influence what is perceived in a visual scene by "directing attention toward some information and away from others, thereby influencing how much is remembered, what is remembered, and what is confabulated" (217). She also posits that the reciprocal effect can occur, and it is possible that MVs may provide listeners with more information

about the meaning of the music and the performers intentions when compared to audio-only listening. Visual information can provide a cognitive framework for the listener as they derive meaning from the music. Video clips featuring a negative scene can cause the music to be perceived as more negative than it would be when only the audio is present (Boltz, Ebendorf & Field, 2009). In Boltz, Ebendorf and Field's study, which paired ambiguous music with either positive or negative video clips, subjects combined information from both modalities in order to establish a unified percept, where the affective nature was directed by the less ambiguous (in this case, the visual) stimulus. These effects were also observed in a second study, where the music was presented again without the video two weeks later. Although the music in MVs may not always be ambiguous, or less ambiguous compared to the video, the results from this study suggest that the combined modalities have an effect on what the individual remembers. Similar findings are also reported by Cohen (2013, 2001) who posits that in order to make sense of the two modalities, individuals attention is directed towards the congruencies between the two modalities. Although this model was first applied to film music, Cohen's model suggests that the interpretation of meaning in both modalities is facilitated when accents in musical structure overlap with the visual information. This is an integral component to film music, which can direct the audience's attention towards the affective nature of the film, clarifying the characters intentions (Cohen, 2001).

The findings from these studies provide useful information on how meaning is derived by combining audio and visual modalities. They provide the groundwork for analysing how MVs impact audience how audiences derive meaning from and interpret the music, when they engage with MVs and music-only listening.

2.6 Aims of the current study

The current study was designed to provide the first exploratory analysis of MVs, a form of musical engagement, which has been largely under-explored by music psychologists. It uses a convergent design in order to develop conclusions based on complimenting sets of qualitative and quantitative data. The study was exploratory, with the general aim to understand more about why individuals chose to watch MVs, as well as whether this experience influenced emotional and interpretational outcomes in subsequent listens. The study also aimed to find connections between individual differences such as personality, use of music for mood and emotion regulation and MV watching. It featured open-ended questions designed to gather insights concerning their emotional reactions during MV listening episodes, as well as inquired about its

effect on the listener in subsequent audio-only listening episodes. The qualitative component of the study had no set hypotheses; it was designed to acquire knowledge on the topic in order to create a framework for future research to investigate. The quantitative component featured three surveys designed to understand the role of individual variables in affective and interpretational outcomes from watching MV, specifically in respect to whether the individual watches MVs for mood regulatory purposes. This component of the study was hypothesis driven, and three hypotheses were formed based on previous research on the use of music for affect regulation. These hypotheses were:

1) Individual responses to MVs should reflect the characteristic emotional responses of the individual's personality type, and a negative correlation will be observed between emotional stability scores and unhealthy listening habits (HUMS). Unhealthy listeners should report more negative MV watching experiences than their healthy counterparts.

2) Affective outcomes may have implications on the way the individual perceives the music in subsequent listening episodes, including possible negative associations towards the music. This may be especially salient for individuals with unhealthy music listening tendencies or individuals high in neuroticism (i.e. low in emotional stability).

The study was particularly interested in adolescent and young adult audiences and their interactions with MVs based on previous research suggesting that music is especially important for psychological development during this time (Laiho, 2004; Miranda, 2013). Electronic devices have facilitated MV watching by making them more accessible, giving the individual more control over which MVs they watch, when and where (Krause, North, & Hewitt, 2015). In addition to recruiting a young adult and adolescent sample, the study was designed so that it could be completed in the same environment they would usually watch MVs in. The questionnaire was designed to acquire insight into the contexts or reasons for watching MVs, the individual's experience in general with this form of media, and any subsequent outcomes that may have occurred as a result of watching it. Results from this study provide novel insights about MV watching, as well as how it relates to the current understanding of everyday music use during youth. The implications of these findings, as well as directions for future research are discussed.

3. METHODOLOGY

3.1 Study Design

The current study sought to acquire a better understanding of individual's experiences with MVs. It investigated which elements defined the key features of their experience, how these features compared and contrasted each other, and whether any relationships between these features and individual factors such as personality, healthy music use and affect regulation tendencies existed. The open-ended questionnaire component of the study was designed with the aim of acquiring new knowledge and insight on the phenomenon, however, due to the broadness of the topic the study focused on understanding how individual differences contributed to affective outcomes from MV watching. How the MV affected their perception of the music during MV watching as well during subsequent listening episodes was reported, and relationships between outcomes and individual variables were examined. In order to gain the most insight into the topic a convergent design was used, where both sets of data provided complimentary information in which to explore the topic (see Morse, 1991). The study utilized both qualitative and quantitative measures in order to gain better insights into the subjects' experiences with MVs, whether participants used MVs as a form of musical engagement for affect regulatory purposes, and whether individual differences contributed to the type of outcomes experienced during MV watching. The qualitative questionnaire component featured questions designed to inspire detailed descriptions about the contexts in which individuals watch MVs, as well as how it affected their experience, interpretation, and emotional outcomes in future listening episodes. Quantitative data concerning each participant's personality traits, healthy and unhealthy listening habits and use of music for mood regulation were collected. New variables were created by transforming qualitative data into nominal data in order to examine relationships between data sets and construct conclusions based on the findings (Driscoll, Appiah-Yeboah, Salib, & Rupert, 2007; Creswell & Plano-Clark, 2018).

3.2 Participants

The study focused on a younger population sample based on previous research suggesting music serves an important psychological function during adolescence (Laiho, 2004), particularly as a tool for affect regulation (Saarikallio, 2008). This is also supported by recent research which has looked at the media use habits and preferred media platforms of young people (Bennett, 2014). Participants were recruited primarily online via Facebook, email, and word of mouth. Data were

collected from 36 participants, all of whom were adolescents or young adults between the ages 15 and 27 (M_{age}= 22.3, SD = 2.72). More than half the sample (58.8%) were females. These 36 (n = 36) cases were analysed in the quantitative component. For the content analysis, only 30 cases from the qualitative data were analysed. Six cases were excluded, as the data was too vague to interpret or did not contain a sufficient data.

3.3 Procedure

The study was accessible online via the Qualtrics platform and took approximately 30 minutes to complete. Once participants accessed the study they were directed to read the participation form that informed them of their rights as participants (see Appendix A). Upon opening the study, they had seven days to complete it, if for some reason they could not finish it all at once. They were also allowed to review their previous answers in the event they did need to come back to the study later, or if they wished to add to their previous answers.

The study design featured the survey scales first, followed by instructions asking the participant to watch a MV they were already familiar with by an artist they enjoy. They were also instructed to provide the link to the MV they watched. Since the study was completed online, participants were able to complete the study somewhere they might usually watch MVs, for example: at home in their bedroom. The MV watching component therefore helped provoke responses with minimal recall bias. Although they may have referred to this MV in their open-ended responses, they were also informed that they could refer to previous experiences with MVs in their answers when they deemed appropriate. Participants were also encouraged to provide any personal opinions or other details not included in questionnaire at the end of the study.

3.4 Materials

3.4.1 Qualitative Measures

Questions from the questionnaire component of the study were used to gain insight into the participants experiences with MVs. In order to acquire a complete understanding of this experience the questions were designed to address the individual's reasons for watching the MV, the contexts they watched them in, what the experience was like, and whether it had any effect on future audio-only listening episodes (see Appendix A for all questions used in the study). Overall there were four general categories questions featuring questions that were grouped thematically according to: context, perception and interpretation, emotional outcomes, and their personal opinions. The questions were designed to be open and allow for detailed responses.

3.4.2 Quantitative Measures

The study used three survey scales in order to measure variables related to the individual. In order to reduce participant wear-out, brief versions of scales were used when available. The Ten-Item Personality Index (TIPI) was used to measure Big Five personality traits in participants (Rentfrow, Gosling, & Swann, 2003). Participants were asked to answer questions on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree) and measured the traits: extraversion, agreeableness, emotional stability, conscientiousness and openness. A measure of personality was included based on previous research which has found evidence that personality is a factor in both music evoked emotions (e.g. Vuoskoski & Eerola, 2013) and emotion-regulation strategies (e.g. Larson, 2000), and thus was considered suitable for this study. The Healthy-Unhealthy Music Scale (HUMS), which was designed to assess relationships between music listening and mental health in adolescents (Saarikallio, Gold, & McFerran, 2015), was also included. Recent studies (see Price, 2014) have found that adolescents enjoy YouTube above other forms of social media. The HUMS scale was included in order to examine whether healthy and unhealthy subscale scores were indicative of certain experiences or outcomes with MVs.

The final scale measure used was the Brief Music for Mood Regulation scale (B-MMR), which provided a reliable measure of music listening strategies employed by the individual during music listening for mood regulation purposes (Saarikallio & Erkkilä, 2007; Saarikallio; 2008). Traditionally this scale is used to measures the individuals use of *each* of the seven strategies, however, for the purpose of this study a mean score was calculated in order to acquire a general understanding of the participants' use of music for mood regulation. For the purpose of this study it was not necessary, especially given the relatively small sample, to know exactly which strategies they used or preferred the most. All statistical analyses examining relationships between BMMR and the rest of the data were calculated using this mean score.

The study also included four 7-point Likert questions, which the participant answered *after* watching the MV. Two of these questions measured how and where the participant directed their attention during the MV, as well as how the MV affected their current mood-state.

3.5 Thematic content analysis

In order to gain more insight about the individual's experience with MVs, the study featured twelve open-ended questions designed to acquire data about different dimensions of the individual's

experience. The analysis took on an inductive approach due to the limited amount of research previously conducted on the topic (Elo & Kyngäs, 2007; Venkatesh, Brown, & Bala, 2013). The analysis process included open-coding and headings for codes were created based on the data. Each case was analyzed separately, and memos were kept in order to compare and contrast data between subjects (Elo & Kyngäs, 2007).

Higher-order categories emerged from the data which described factors pertaining to the contextual factors (reasons) for watching MVs, their experience during the listening episode, and the effects the MV had on future listening episodes. These higher-level categories were referred to as Antecedents, Experience Outcomes, and Subsequent Outcomes, and were formed based on responses to questions designed to gather insight into that point of the experience. Each of these categories consisted of subcategories formed by grouping codes with similar themes (Charmaz & McMullen, 2011). Since participants responses varied in length and detail some cases contained codes belonging to one or more subcategories within each higher level (for this reason, percentages for each subcategory presented in the results do not add up to 100%).

The content analysis was focused on finding underlying concepts or patterns that were relevant to the studies proposed aims. Three concepts pertaining to psychological processes occurring across all three categorical levels were uncovered pertaining to the participants' affective responses, perception of meaning and attention to structural details in the music and video. In addition to the three higher-level categories were eight thematic concepts that were not directly related to any of the higher-level categories. These categories were labelled: *connection and empathy, gesture and movement, thought-provoking, artist interpretation, personal interpretations, storylines, detachment* and *critical-thinking*. Tests of association were also conducted in order to establish relationships between these thematic categories and data from the higher-level subcategories.

3.6 Statistical Procedures

Correlations were run between all survey and Likert data in order to establish any relationships between individual variables. All statistical analyzes were performed using *Jamovi* 0.9 statistical software. T-tests and Mann-Whitney U-tests were used to examine relationships between survey measures and qualitative data, and data from the content analysis were transformed into nominal data in order to accomplish this (see Creswell & Plano-Clark, 2018). The statistical analyses were used to explore the hypotheses set for the third aim, as well as assist in understanding themes uncovered in the qualitative analyses. Correlation analyses were also run in order to

understand relationships between participants' TIPI, HUMS and the composite B-MMR scores, and data from the Likert-scale questions designed for the study.

3.7 Pilot Results

A pilot study was run in order to test the questions designed for the qualitative component. It included responses from 10 individuals between 12-24 years of age. Furthermore, it did not include the music listening instruments (BMMR and HUMS) which were included in the final version of the study, however it did include the Ten-Item Personality Index (TIPI) as a personality measure. The TIPI measure was not powerful enough to provide conclusive data about the relationship between personality and how participants answered the open-ended question component of the study due to the small sample size. The purpose of the pilot however was not to test these measures, but to test whether the proposed set of questions were easy to understand. Furthermore, results from the pilot provided insights into how the design could be improved upon to support and encourage descriptive responses from participants.

Some adjustments were made to the pilot in order to increase the viability of the results. The HUMS and B-MMR scales were added to the final version of the study in order to have a measure of the subjects' music listening habits. Statistical analyses were run in order to establish correlations between all three scale measures in order to examine any relationships between the subjects' personality traits and listening habits. Some open-ended questions were added in order to obtain more information on the participants opinions in respect to MVs as an influencer of behaviour. The final set of questions used in the study are available in Appendix A.

4. RESULTS

Trends emerged in the data suggesting a variety of different reasons and situations in which individuals would watch MVs over other listening activities, what types of experiences they had, and what kind of outcomes occurred when listening to the same song in future, audio-only listening episodes. The convergent approach allowed for both sets of data to be analyzed together, providing a better picture of each individuals' experiences. Furthermore, examining the subjects reports with the data they provided in the survey component allowed for a better understanding of how their experience with MVs reflected the subjects use of music for emotional health and well-being purposes, personality, and in some cases their age. Only significant findings that address the study's research aims and hypotheses are reported; statistical analysis, including all statistical tables and graphs can be found in Appendix B. Results from the study also brought to light the concept of mental imagery, which was reported overwhelmingly among subjects as a subsequent outcome in future listening experiences. Implications for this result are discussed.

4.1 Content analysis

The exploratory nature of this study allowed for many different experiences to come to light. These trends reflected outcomes which occurred during and immediately after watching the MV, as well as how the MV implicated their experience with the song in the future. Questionnaire data were organized according to three time-level categories referred to in the results as Antecedents, Experience Outcomes and Subsequent Outcomes (see figure 1).
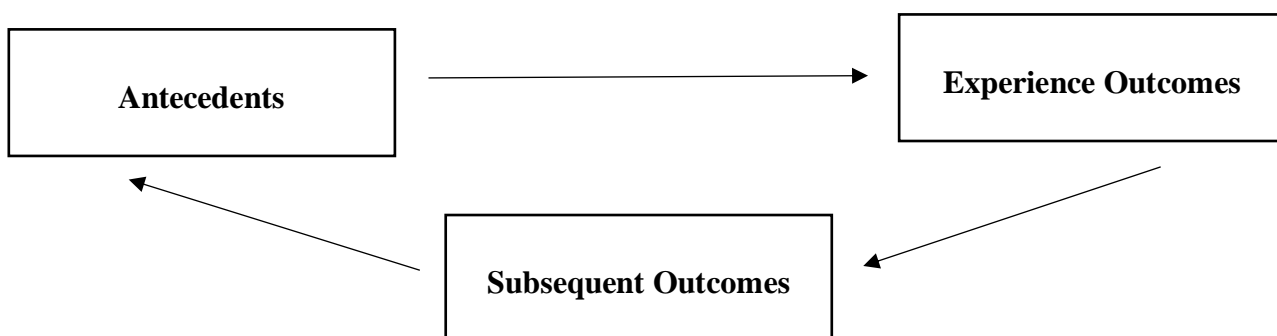
FIGURE 1. Three time-level categories uncovered during the content analysis: (1) Antecedents include all reported reasons, contexts and situations when participants choose to watch MVs. (2) Experience Outcomes detailed what kind of affective responses, thought processes and/or behaviours emerged while watching the MV. (3) Subsequent Outcomes included reports concerning the MVs ability to change participants feelings towards the song in future listening activities.

In addition to these levels, eight separate categories also emerged from the data. These categories, referred to as general thematic categories (GTCs) included cases of particular themes

that could not reliably or adequately be categorised as pertaining to a specific point in time during the experience. These themes include: *connection and empathy, gesture and choreography, thought-provoking, artist's interpretation, personal interpretation, storylines, detachment,* and *critical-thinking.* Definitions and examples of each theme can be found in Table 1. In many cases these themes indicated the types of MVs the individual preferred watching. For example, 19 cases reported participants enjoyed MVs with storylines when asked what factors made for a good MV.

TABLE 1 Thematic categories, definitions and examples from the data.

THEME	DEFINITION	EXAMPLE
Connection and Empathy	Characterised by feelings of empathy or understanding towards the artist or characters in the MV.	*It made me feel like I knew her and felt all of her emotions inside me (that sounds so dramatic!)* *...when I see what the artist envisions, it creates a [connection] that you have with them.*
Gesture and Choreography	Includes reports from participants who enjoy choreography or watching artists perform as part of the MVs content.	*I often times like to imagine myself playing the song with the band in the video I am currently watching.* *I find it so fascinating how some moves to this particular song with their body.... I tend to really watch how the movement in the video goes with the music.*
Thought-Provoking	Subject reports enjoying MVs that provoke a lot of thought. Preference for MVs that comment on social issues are reported.	*The first [kind of good music video] being just music videos that make you think or are maybe making some sort of social commentary...* *[the scene] was HUGELY impactful and really hit home with a lot of people regarding black violence and police brutality.*
Artists Interpretation	Characterised by reports from participants who are interested in the musician's visual interpretation of the music.	*While you're less focused on every word and sound, it allows you to better understand what the artist was thinking or feeling.* *I think that it in a lot of cases... the video gives you insight into the artist's perspective on the music.*
Personal Interpretation	Characterised by reports stating the importance of their own personal interpretation of the music's meaning. They may ignore or incorporate information from the MV into their current interpretation of the music.	*I always prefer my interpretation of a song but it can be hard to still think of it that way after seeing a video that shows it's meant to be interpreted differently.*
Storylines	Preference or interest in MVs that feature stories based on the lyrics or thematic content of the song.	*If there are underlying meanings or a solid storyline in the [video] then it makes me think that the artists are taking their music more seriously.*
Detachment	Reports show the participant is unaffected by the MV for long or short-term. Characterised by reports suggesting there are no significant changes as a result of watching the MV.	*I don't usually find myself completely [interpreting] a song just based on the video, either short or long term.* *I prefer to look at the lyrics/musical content for an interpretation of a song's meaning.*
Critical-Thinking	Subject reports disliking certain MVs, and/or is critical of MVs and their content. They tend to give specific reasons, for example, MVs that over-sexualize women, or come across as too commercially driven.	*Watching this music video made me realize how I hated his perception of women. At the same time it made me think that the industry did it, not him.* *I believe more cinematic style music videos very very rarely, if ever, contribute to the music listening experience....Cinematic style music videos are almost glorified slideshows to me.*

4.1.1 Antecedents

Responses from the open-ended questionnaire shed light on the contexts or reasons in which individuals chose to watch MVs over other listening activities. This data, which made up the Antecedent level, consisted of Two categories were found in the data: the first were Media Reasons which reflected whether MV watching occurred from interest in the music or as part of social media engagement, and Psychological Reasons (see Figure 2). Two subcategories emerged in the Media Reasons category reflecting whether the individual watched MVs as part of their *music listening* habits, or *social media use.* Data revealed that MV watching was not always specifically motivated by interest in the music; it was brought on from engaging with social media sites such as Facebook and YouTube. Observations could also be categorized as Psychological Reasons when individuals were motivated to watch MVs over just listening to the music in order to accomplish some psychological goals. Some of these included reports of subjects watching MVs in order to regulate mood, as well as reports of subjects watching the MV in order to learn music or dance choreography. These reports were subcategorised as *emotional* and *cognitive* reasons respectively. It should be noted again that since some participants provided more data than others, the number of observations for each category varies. For this reason, the indicated percentages for each category represent the number of times it was observed within the entire sample.

Watching MVs as part of interacting with social media was reported in 33.3% of cases, where subjects watched the MV because it had been hyped up in the media. One subject (F19) explains she watched the MV because of its popularity at the time, asserting: "*it was all anyone was talking about.*" This subcategory contained all reasons for watching MVs that were not necessarily motivated by any prior interest in the music or artist itself. In contrast, data in the music-listening subcategory included reports from individuals who watched the MV because they were interested in the song itself, for example, watching MVs for favourite songs, or new MVs by favourite artists. These reasons occurred more frequently in the data and was reported in 53.3% of all cases.

Psychological Reasons for watching MVs were reported in 36.7% of cases. Some of the data from this category could be subcategorized as watching for affect related or cognitive reasons. In the case that the data could not reliably be included in one category over the other, it was categorised only under the greater Psychological Reasons heading and not subcategorised further.
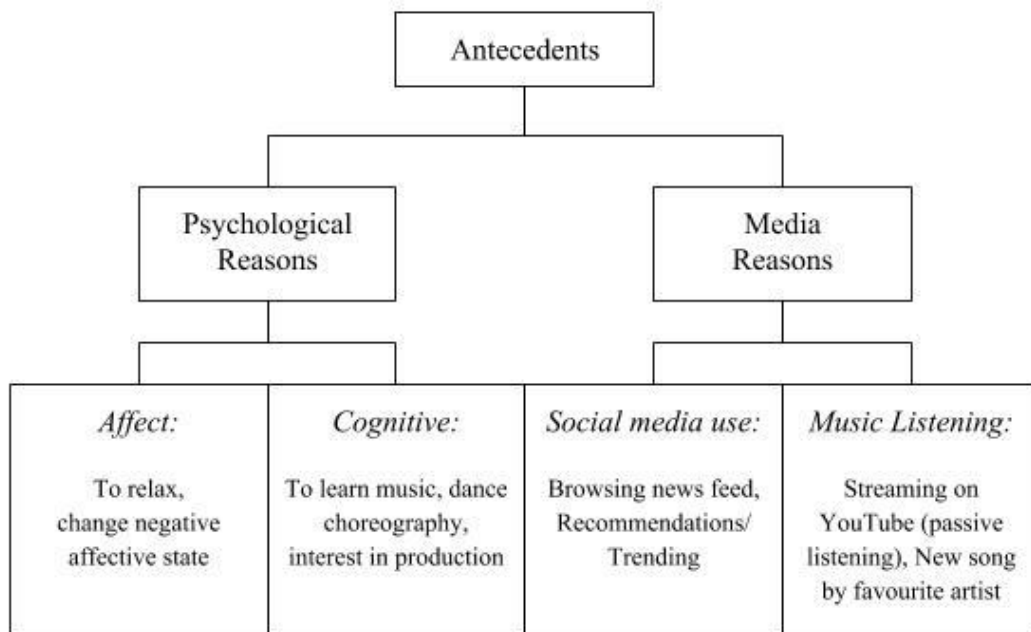
FIGURE 2. Antecedents for MV watching: categories and subcategories reflect the individuals motivation for watching MVs over other listening activities.

Examples of reasons which could not be subcategorise included reports such as (M11): "*to fully experience the music*". Emotional reasons were the least frequently reported and observed in 5.6% of cases (two cases in total). Only one participant (F34) reported watching MVs in order to change a negative emotional state: "*When I am relaxing at night or when I am having an anxiety attack.*" Watching MVs to relax was reported in these cases. Other psychological reasons were subcategorised as cognitive reasons; these reports included watching MVs to help learn the music, to see performance gestures or learn dance moves. One participant explains their preference for MVs featuring shots of the musician performing, because it helps them (M21) "*to gain visual information about the production (or harmony, if it includes clear shots of the piano being played).*" Cognitive reasons were reported in 17.6% of cases.

4.1.1.1 Tests of association for Antecedents

Chi-square tests of association were conducted in order to establish any relationships between subcategories for Antecedents and GTCs. The tests revealed a significant relationship between the music-listening subcategory and *thought-provoking* themes. This suggests individuals who watched MVs because they were interested in the music enjoyed MVs that made them think more deeply about certain issues or themes; χ^2 (1, $N = 30$) = 7.23, $p = .007$. This relationship was also observed among participants who report watching as part of engaging with *social media use*; χ^2 (1, $N = 30$) = 5.63, $p = .018$. Regardless of whether the MV watching episode was brought on as

part of listening or social media activities, subjects preferred MVs with thought-provoking themes when they were not specifically watching for psychologically motivated reasons. Interestingly, a negative association between psychological reasons for watching MVs and *storylines* was observed: χ^2 (1, $N = 30$) = 5.44, $p = .020$. A relationship between *social media use* and gender was also observed. Chi square tests revealed females in the sample were significantly more likely than males to report watching MVs while engaging with social media: χ^2 (1, $N = 28$) = 4.37, $p = .037$. No other relationships Antecedent categories, including any relationships between these categories and gender, were found.

4.1.2 Experience Outcomes

Subject reports provided novel insights into the types of emotional outcomes and thought-processes were experienced during subjects MV listening episodes. The Experience level comprised of reports relating to the subjects' immediate emotional outcomes, their perception of the music's meaning, and attention to structural features in the music and video. Three categories were created based on these trends, and are referred to as *Deep Affect, Meaning Driven* and *Feature Focused* subcategories respectively (figure 3). These included reports of past reactions to MVs, since some subjects included detailed accounts of their experiences with MVs they had seen in the past. Reports of the subject *feeling emotions* in response to the MV were categorised under *Deep Affect*. Unlike *Deep Affect*, neither *Meaning Driven* or *Feature Focused* reports included statements of emotional changes or responses to the music. These two subcategories contained self-reports from the subjects reflecting possible cognitive and attentional processes at work during the MV episode. Although codes were mutually exclusive and could only belong to one category, it was possible for some subjects to include data belonging to two or all subcategories depending on the amount of data they provided.

Reports of *Deep Affect* were found in 46.7% of cases. Codes from these reports included examples of specific emotional outcomes they experienced as a result of watching the MV. These reactions may include being moved to the point of tears, as F25 subject reported: *"I felt really emotional after watching it… I cried at a lot of parts of it when watching it."* F27 suggested MVs had the ability to make: *"whatever emotion I'm feeling become stronger."* Although one of the questions was designed to understand whether subjects experienced greater emotional reactions to the MV compared to just the music the data suggested this depended highly on the music. Many participants did provide examples of MVs that did elicit strong emotional responses, however

subjects were unable to reliable conclude whether this response was stronger than when they were listening to the audio-only.
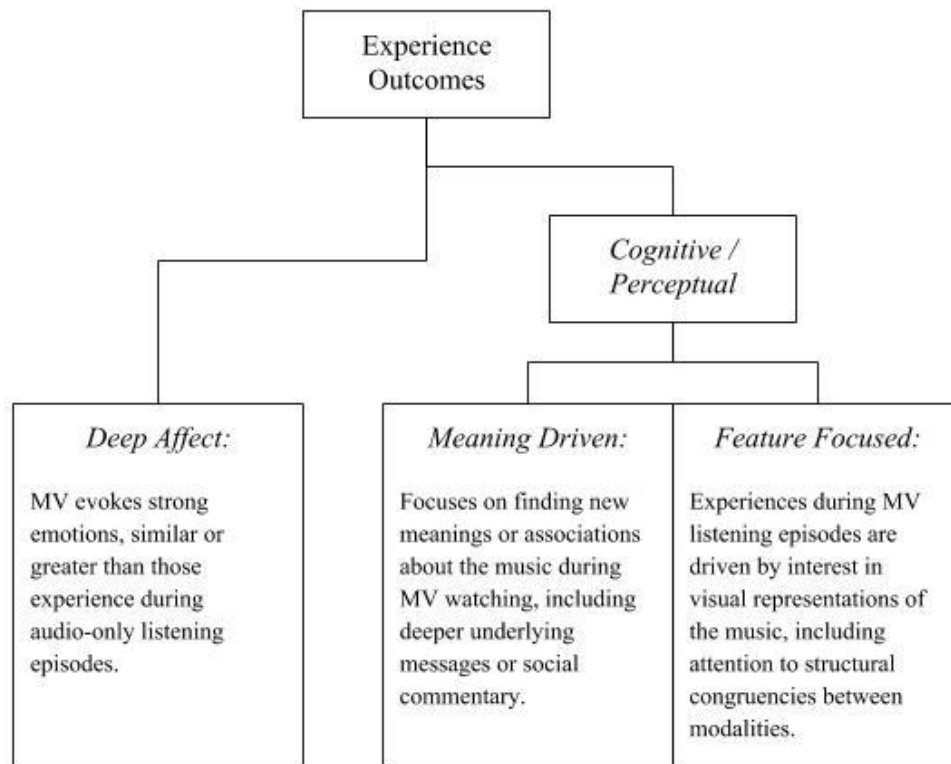

FIGURE 3. Experience Outcomes and categories. *Deep Affect* referred to emotional experiences occurring during MV watching episodes. *Meaning Driven* and *Feature Focused* themes referred to cognitive and perceptual aspects of the experience relating to how the individual interprets the meaning of the music, and what structural features of the MV were attended to.

Meaning Driven experiences were reported in 66.7% of cases. These experiences were characterised by their focus on understanding the meaning or message behind the music. In some cases, participants reported avoiding the MVs for songs they enjoyed, as it *detracted* from their own interpretation of the music. In her report, F25 further described the experience: "*It's kind of like watching a movie of a book where the person who made the movie cast people in the roles that aren't how you pictured them.*" Her experience with MVs were focused on the meaning and interpretation of the music to the point that she now actively avoids watching MVs for songs she enjoys. On the other hand, M05 reported paying more attention to the semantic elements or meaning behind the music without experiencing such outcomes: "*…the video often propels the message of the song. I immerse myself more in the story of a song when watching a video.*" Some subjects reported enjoying MVs with storylines or plots, however it was not the only factor which affected how they interpreted the meaning, nor was it necessary that the MV have a distinct storyline in order for it to do so. Their experiences were characterized as being focused on the

semantic meaning or interpretation of the music as it was displayed in the video. Although the affective quality of the video is important for drawing these conclusions about the meaning, this subject (M05) did not suggest they were as personally affected by it as the former (F25).

Feature Focused experiences were also reported in 66.7% of reports. Unlike *Deep Affect* or *Meaning Driven* experiences, these reports did not elude to the affective nature of the music; instead they focused on audio-visual representations of the music. Subjects reported being particularly drawn to the visual experience of the music, which some found more engaging than audio-only listening episodes. As F32 explained: *[visuals] can sometimes aid in experiencing the music in a way you hadn't before, especially if the visuals sync or line up well with what is happening in the song."* These reports emphasized the importance of acoustic features in the music being represented in the video, or imagery which, according to U28: *"fits the tempo and lyrics."* These experiences were also characterized by the participants enjoyment of MVs for their artistic elements in the cases where they did not give examples of specific audio-visual representations that were the object of focus during their listening episode.

Some subjects provided detailed reports about whether, and if so, the extent to which MVs enhanced their experience. Although most participants experienced enjoying MVs at some point, 33.3% of cases reported experiencing negative outcomes as a result of watching the MV. It was not always clear whether the participant was disappointed in the video due to its content, or if it had caused some negative emotional change (see Appendix C). Participants who only enjoyed specific MVs (e.g. recordings of live performances) explained why they enhanced their experience while other types (e.g. official MV releases) did not. Some subjects were unable to make any specific assertions or were unable to compare their experience to other types of music listening. All graphical representations of data from the Experience Outcomes level (including statistical tables) can be referred to in Appendix C.

4.1.2.1 Tests of association for Experience Outcomes

Chi-square tests were conducted in order to establish relationships between categorical data from the Experience Outcomes level, as well as categorical data from the Antecedent level. These tests also examined relationships between Experience Outcomes and gender as well as the GTCs. No significant relationships were observed between the Experience Outcome categories *Deep Affect* or *Feature Focused* and any Antecedent categories. A significant relationship was observed between the *social media* subcategory and *Meaning Driven* experiences; $\chi^2 (1, N = 30) = 7.50$, $p =.006$. Subjects who watched MVs as part of social media engagement had *Meaning Driven*

experiences. No relationships between Experience Outcome categories and gender were observed. Furthermore, none of the Experience Outcome categories were significantly related to each other.

Tests of association revealed relationships between Experience Outcome categories and the GTCs a significant relationship between *Deep Affect* and *connection and empathy*, χ^2 (1, $N = 30$) = 8.62, $p = .003$. Subjects who reported themes of *connection and empathy* were more likely to experience emotional outcomes from watching MVs. The same was true for *Deep Affect* and *gesture and choreography*, χ^2 (1, $N = 30$) = 7.31, $p = .007$. *Meaning Driven* experiences were negatively related to reports of *gesture and choreography*, χ^2 (1, $N = 30$) = 4.18, $p = .041$. Subjects who reported enjoying or seeking out MVs with interesting movement or choreography were less likely to report *Meaning Driven* experiences. No other relationships were observed between Experience Outcomes and GTCs.

4.1.3 Subsequent Outcomes

Categories in the Subsequent Outcomes level reflected the subjects future, audio-only listening episodes. Data from this category were categorised as *New Affect, New Meaning* and *Mental Imagery* (see figure 4). This data provided new insights into how the MV affected the individual's relationship and engagement with the music, as well as how information from the MV carried over to these future listening episodes. The categories *New Affect* and *New Meaning* were directly related to *Deep Affect* and *Meaning Driven* categories from the Experience Outcome level, and provided new conceptual knowledge concerning how content from MVs have lasting, occasionally permanent implications on how the music is experienced. Although there was no directly related category for *Feature Focused* experiences, attention to certain structural features of the music were reported in the data in the form of internal visual imagery (or *Mental Imagery,* as it is referred to here). Furthermore, reports revealed whether the effects from the MV were temporary, long-term or permanent. Data categorized in this level also provided insights into why individuals would choose to watch MVs in the future.

Subjects were asked in the questionnaire whether or not they had ever experienced long-term changes in interpretation or association to the music after watching the MV. The majority of participants experienced some sort of change in interpretation, as was indicated in 83.3% of cases. Long-term changes were reported by 43.3% of subjects. On the other hand, 36.7% of cases reported *some* change, either short or long-term, depending on the MV. Only 16.7% (five cases) reported no change in subsequent listening outcomes. Negative outcomes were also reported: 20% of cases in the data reported instances when the MV ruined the individual's feelings about towards the music,

causing them to disassociate from their original interpretation of the music (see Appendix D for tables and bar graphs of all subsequent outcome data).

```
                        ┌──────────────────┐
                        │   Subsequent     │
                        │   Outcomes       │
                        └──────────────────┘
```

New Affect:	Mental Imagery:	New Meaning:
New emotional connections or affective responses to the music reported, including new understanding of the song's emotional character affect its use for emotional reasons in future listening episodes	Internal visual imagery during audio-only listening episodes related to content depicted in the MV	New interpretations or associations as a result of MV reported, including a new understanding of the music's meaning applied to future music listening episodes

Scene Specific Imagery (SSI):

Reports of *Mental Imagery* suggest it is triggered at a specific moment in the music which is temporally aligned to a specific scene or scenes from the MV
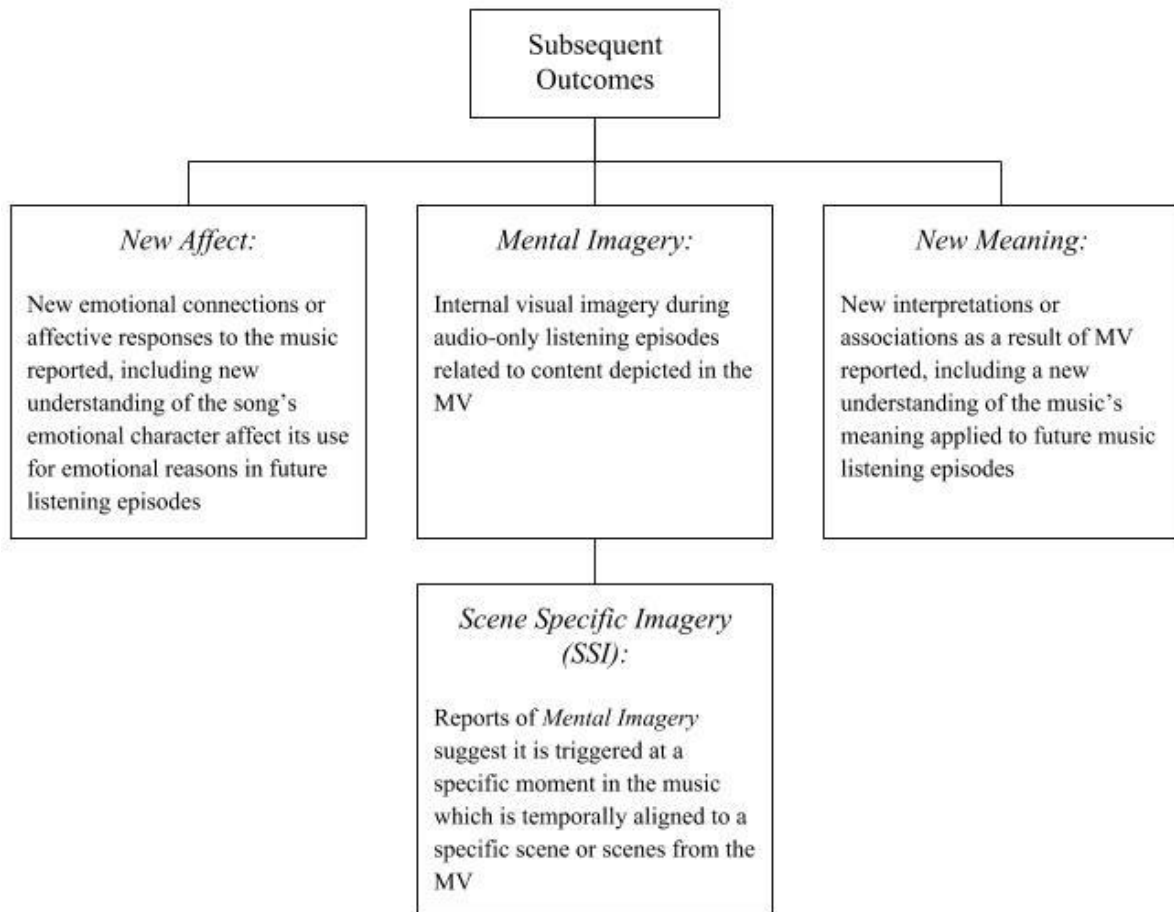
FIGURE 4. Subsequent Outcomes of MV watching.

New Affect and *New Meaning* were related to the *Deep Affect* and *Meaning Driven* categories from the Experience Outcomes level (see Table 2). There was no exact equivalent for *Feature Focused* themes as there were for affective and meaning related themes. However, data from the *Mental Imagery* category suggest visual elements from the MV transferred to subsequent listening episodes as internal visual imagery. Overall, these three categories provided details in respect to how the MV affected future listening episodes. It reflected the types of outcomes that occurred in these episodes as a result of visual information creating new associations with the music that were not available before watching the MV.

TABLE 2. Experience Outcome categories *Deep Affect* and *New Meaning* and their Subsequent Outcomes level categorical equivalents.

EXPERIENCE OUTCOMES	SUBSEQUENT OUTCOMES	DEFINITION
Deep Affect	*New Affect*	Descriptive reports of emotional outcomes. Characterised by reports indicating the subject *felt* certain emotions during the MV or in subsequent listening episodes
Meaning Driven	*New Meaning*	Information from the MV enabled the participant to understand the music differently, creating a new interpretation of the music's underlying meaning or message.

Similar to the *Deep Affect* Experience outcome, data in the *New Affect* category reflected changes in emotional outcomes in subsequent listening episodes. These codes included reports of new emotional contexts for future listening episodes. F01 disclosed how this occurred after one particular MV watching experience: "*...sometimes a song will have a music video with a completely different tone/feel than the situations/context in which I would normally listen to the song.*" She goes on to explain how before watching the MV she listened to that particular song when she needed a *"pick me up"*. The MV, which featured a visual representation of the lyrics presented them in a way she described as "*bittersweet*". After watching the MV, this emotional quality became more apparent to her in future listening episodes, suggesting the song no longer served its original emotion regulation purposes in subsequent listening episodes. F14 explained how the MV gave her a *"deeper connection"* to the music that she could relate back to whenever she heard the song in the future. *New Affect* was the least reported subsequent outcome: it was observed in 46.7% of cases.

The *New Meaning* category encompassed all outcomes highlighting new associations or interpretations of the music as a result of the MV. These reports were observed in 70% of all cases. F15 explained how an enjoyable MV could make her "*think of more complex themes or ideas*" in subsequent listens. In her case, these changes could be permanent: "[*the artist] never mentions monsters in the song but because that was for some reason the theme of the video that's what I associate with the music instantly.*" Although F15 did not mention the MV creating an unwanted or negative association to the song, this was the case for other subjects. U03 reported how seeing how the MV could have negative implications. Although their personal interpretation was always preferred: "*it can hard to still think of it that way after seeing a video that shows it's meant to be*

interpreted differently." There were no significant relationships between these types of negative outcomes and the occurrences of *New Meaning* reports in the data, and both positive and negative outcomes from MV watching were reported.

The most intriguing finding from the data were the reports of *Mental Imagery* occurring in subsequent listening episodes. What was unique about this imagery is that it was influenced by the visual material from the MV. Two types of reports were found in the data: the first included cases that provided examples of *scene specific imagery* (SSI), where specific moments in the music triggered imagery corresponding to a particular moment in the MV. This suggests that the imagery was temporally aligned with certain structural elements - or congruencies – in both the audio and visual modalities, facilitating the recall of specific scenes. According to subject M16, MVs had the ability to make "*an already powerful moment in the song even more intense."* He gave the example of a scene from the MV which he always remembered in subsequent listening episodes: "*I always think of the family waving and screaming at the helicopter when the singer is screaming 'Right here! Right here!'"* *Mental Imagery* was the most frequently reported in all the data: 80% of participants reported experiencing visual imagery from the MV in subsequent listening episodes, and 62.5% of those reports included SSI. Other reports of *Mental Imagery* were more generalized; they did not correspond to specific scenes necessarily but highlighted the tone or visual feel of the music. This may be the case for participants like F10, who reported experiencing *Mental Imagery: "always, especially in very sad or [emotional] songs I seem to always remember the video while listening to the song later."* Although SSI provided more specific details about the occurrence of *Mental Imagery*, there was not enough evidence in the data to suggest that individuals usually experience one type over the other, since many subjects also reported that whether or not they experienced this kind of internal visual imagery in subsequent listening episodes depended on the song and video in question.

What was especially interesting about the *Mental Imagery* phenomenon was that even participants who reported experiencing *no change* in emotional outcomes or interpretation after watching the MV could still potentially experience visual imagery from the video in subsequent listening episodes. M21 asserted that MVs do not tend to change his interpretation unless the music unless the song is in another language; in this case the MV provided helpful details and helped to understand the context of the music better. He explained how scenes from the video would come to mind for songs with MVs featuring dance routines: "*I can see the dance in my mind when I listen to the music alone."* This kind of observation was also reported by F04, who gave an example of a "powerful" scene from the MV that featured choreographed movement: "*...every time I listen to the song and it hit a certain point that scene and the movement always replays in my head."* The data

did not provide enough evidence to suggest this type of imagery was limited to scenes with dance or choreographed music, however, only that this relationship between gesture and visual imagery exists in respect to subsequent outcomes from MV watching.

Many changes in subsequent outcomes were revealed in the data, however not all of these changes were desired or had positive outcomes in future listening episodes. These included reports of the song being ruined by the MV, where subjects found themselves *disassociating* from their original associations and feelings towards it. This type of outcome occurred in 20% of reports. There were also subjects who reported *no changes* in how they engaged with the music in subsequent listening episodes, however this was only reported in five cases. Compared to other outcomes found in the data these themes occurred the least frequently.

4.1.3.1 Tests of association for Subsequent Outcomes

Chi-square tests of association were conducted in order to understand any relationships between Subsequent Outcome and categorical data from Antecedent and Experience levels, gender, or GTCs. *Mental Imagery* encompassed two subcategories, one of which accounted for reports stating generally that the subject had experienced this type of imagery, and another subcategory reflecting specific examples of scenes that were recalled in future listens.   Tests revealed no significant relationships between *New Affect, New Meaning* or *Mental Imagery* categories and Antecedent categories. No relationships between Subsequent Outcome categories and gender were revealed.

Tests of association revealed a significant relationship between *New Affect* and the *Deep Affect* experience outcome, χ^2 (1, $N = 30$) = 6.47 $p = .011$. Subjects who reported strong emotional outcomes during the experience also reported changes in their affective response to the song in subsequent listening episodes. A significant relationship between *New Affect* and *Meaning Driven* experiences was revealed, suggesting experiences focused on understanding the meaning or interpretation of the music as it was presented in the video also had changes in affective outcomes in future listens, χ^2 (1, $N = 30$) = 4.29, $p = .038$. No relationships between GTCs and *New Affect* were uncovered. Chi-square tests revealed a significant relationship between reports of long-term changes and *New Affect*, χ^2 (1, $N = 30$) = 4.69, $p = .030$, suggesting these new changes in affective responses were long-term or permanent changes. No other relationships between subsequent outcome categories and reports of long-term changes were observed. *New Affect* was also significantly related to the subsequent outcome *New Meaning*, χ^2 (1, $N = 30$) = 6.53, $p = .011$.

Subjects who reported new emotional responses to the music also interpreted the meaning of the music differently in future listening episodes.

Just as *New Affect* was significantly related to reports of *Deep Affect* from the experience level, *New Meaning* was significantly related to *Meaning Driven* experiences, χ^2 (1, $N = 30$) = 6.43, $p = .011$. Chi-square tests of association revealed a negative relationship between reports of *New Meaning* and *detachment*, χ^2 (1, $N = 30$) = 4.80, $p = .028$. Subjects whose personal interpretation or feelings towards the music were unaffected, suggesting and did not derive any new meaning from the MV that carried over to subsequent listening episodes.

Relationships between reports of *Mental Imagery* and other categories of themes and outcomes were examined. Two type of *Mental Imagery* experiences were revealed. All reports asserting the subject experienced *Mental Imagery* in subsequent listening episodes were examined, however SSI episodes were also examined separately. Since these reports contained more detailed descriptions of the types of scenes that triggered *Mental Imagery* in future listening episodes, whether these descriptions could be associated to any particular experience or outcome was of interest.

Chi square tests of association revealed a significant relationship between all reports of *Mental Imagery* and themes of *empathy and connection*, χ^2 (1, $N = 30$) = 4.34, $p = .037$. No other relationships were observed between the larger *Mental Imagery* category and any experiences, outcomes, or GTCs. Tests of association did reveal a significant relationship between the SSI category for mental imagery and experiences of *Deep Affect*, χ^2 (1, $N = 30$) = 4.29, $p = .038$. This suggests subjects who experienced SSI tended to have more emotional experiences with MVs *during* the experience. There was also a significant relationship revealed between SSI and *gesture and choreography*, χ^2 (1, $N = 30$) = 5.45, $p = .020$. Participants who reported enjoying MVs featuring performance gesture, dance or other choreographed movement experienced specific imagery which temporally corresponded to that moment in the MV.

4.2 Individual variables and key factors of the MV experience

The current study utilized three scales to measure personality traits, listening habits and use of music for mood regulation in participants. Relationships between the scale measure scores and transformed qualitative data were analyzed in order to obtain a better understanding of subjects MV experiences. It also investigated, to an extent, whether experiences were different between older and younger participants in the sample, as well as whether gender had an effect on the individuals experience. Independent samples t-test were conducted in order to examine

differences between gender and results from each scale measure: females in this sample had lower scores in emotional stability (*Md*= 3.5) compared to the males (Md = 6.0), U = 73.0, *p* = .016. Females also reported that the MV they watched before starting the open-ended questionnaire put them in a better mood more so than males. This finding is based on t-test results comparing gender and scores from the Likert questions (see Appendix F). Mann-Whitney U tests show the median score for this question was higher among women (*Mdn* =6.0) then men (*Mdn*= 5.0)* in this sample: U = 55.0, *p* = .002.

Independent sample t-tests were primarily conducted in order to examine possible relationships between survey data and the transformed data representing the qualitative findings. Findings from this section address the third, hypothesis driven aim of the study: How do individual factors such as personality and healthy listening habits help explain the key features of the experience (i.e. Antecedents, Experience and Subsequent Outcomes categories)? There were two proposed hypotheses; first, that affective responses to MVs should reflect the responses associated with that personality type, and secondly, affective outcomes from MVs would have implications on how the individual perceived or interpreted the music in the future. Due to the number of t-tests being performed, a Bonferroni correction was performed and the critical P value (α) was set: *p* > .0033. Since this is a relatively small value, all statistical analyses with a critical value below .05 and their significance are discussed, however particular importance is placed on relationships where the observed p value fell below the Bonferroni correction. Whether these results support the research hypotheses are discussed.

4.2.1 Tests of independence for key factors and survey measures

Independent samples t-tests were conducted in order to establish whether the individual differences measured in the survey component could help explain features of the MV experience, particularly at the Experience and Subsequent Outcome levels. Personality traits of particular interest to the study were extroversion, emotional stability, openness, and to a lesser extent, agreeableness, based on current theoretical knowledge concerning the role of personality differences in music evoked emotion. Data pertaining to MV Antecedents were also analysed, however not all participants gave equally detailed descriptions about their reasons for engaging as they did when describing the experience itself. The results provided some insights about whether individual differences could predict outcomes from MV watching. Whether these variables were related to the individual's reason for engaging with MVs was investigated. Furthermore, no

relationships were found between BMMR data and categorical data pertaining to key factors of the MV experience, however relationships with other scales were observed.

Independent samples t-tests provided evidence of some significant relationships between categorical data and individual differences, however there were not as many relationships found as were anticipated. Tests of independence uncovered a relationship between scores for the trait extroversion ($M = 4.78$, $SD = 1.41$) and the *music-listening* Antecedent subcategory, suggesting extroverts were more likely to watch MVs as part of music listening activities and not as part of engaging with social media, $t(28) = -2.92$, $p = .007$. No other relationships between Antecedents and survey data were observed.

No relationships were observed between individual variables, or the Experience Outcome categories (*Deep Affect, Meaning Driven* or *Feature Focused).* A significant relationship was observed between HUMS scores and reports of negative outcomes during the experience, however. Participants who reported negative outcomes during the experience had significantly higher unhealthy scores ($M = 18.6$, $SD = 4.38$) compared to those who did not ($M = 13.9$, $SD = 4.34$): t(28) = 2.79, $p = .009$. Furthermore, a significant relationships was observed between reports of negative outcomes and emotional stability, where individuals who reported negative outcomes had significantly lower scores in this trait ($M = 3.40$, SD = 1.39) compared to those who did not ($M = 4.97$, $SD = 1.36$): t(28)= -2.97, $p = .006$.

Of the three main Subsequent Outcome categories (*New Affect, New Meaning* and *Mental Imagery*) only reports of *New Meaning* were found to be related to individual differences. Interestingly, results from the t-tests revealed that reports of the MV providing new insight about the music's meaning was related to *lower* scores in emotional stability ($M = 4.00$, SD = 1.51), compared to those who did not ($M = 5.50$, $SD = 1.09$); t(28) = 2.69, $p = .012$. A similar relationship was observed for openness, where individuals who experienced changes in interpretation had lower openness scores (*Mdn = 5.31*) compared to those who did (*Mdn = 6.50)*: U= 34.5, $p = .006$, however in both cases the average score could be considered quite high. On the other hand, individuals who reported experiencing *no change* in subsequent interpretational or emotional outcomes to the music had significantly higher scores in openness (*Mdn = 5.0*) compared to those who did report some change or changes (*Mdn = 6.50)*: U = 23.5, $p = .030$. Furthermore, participants who reported no changes or carry-over effects in future listening episodes after watching the MV had significantly lower unhealthy scores ($M = 11.40$, $SD = 3.36$) compared to the rest of the sample, t(28) = 2.19, $p = .037$. Tests of independence also uncovered differences in openness scores between participants who indicated experiencing long-term changes from watching MVs ($M = 5.12$, $SD = 1.00$) compared to those who did not ($M = 6.06$, $SD = 0.92$). This suggests

participants who experienced long-term changes tend to have lower scores in openness; t(28) =2.68, p = .012. No other significant relationships between personality scores and duration of subsequent outcomes were observed.

4.2.3. Tests of independence for GTCs

Independent samples T-tests and Mann-Whitney U-tests were conducted in order to examine possible relationships between transformed qualitative data and survey data. Tables for all survey data can, including correlation tables be found in Appendix E. Only the most significant findings are discussed in detail.

A number of relationships were observed between qualitative data and HUMS scores, suggesting certain themes reported in the data were related to their use of music for health and well-being purposes. A relationship was uncovered between the GTC *Artists interpretation* and unhealthy scores, suggesting individuals who were interested in the artists interpretation had *lower* unhealthy scores (M = 13.3, SD = 5.19) compared to those who were not (M = 16.9, SD = 4.13); t(28) = 2.09, p = .046. A significant relationship (with a critical value below the Bonferroni correction) was observed between unhealthy scores and the GTC *detachment*; individuals who reported being able to ignore or detach the meaning in the MV to the music had lower unhealthy scores (M = 10.5, SD = 2.35) compared to those did not (M = 16.7, SD = 4.50), t(28) = 3.243, p = .003.

T-tests also revealed significant relationships between GTC category *criticality*, with agreeableness and age. Individuals who reported being *more* critical of MVs tended to have higher scores in the trait agreeableness (M = 5.70, SD = 1.15) compared to individuals who did not show criticism towards MV content (M = 4.38, SD =1.11); t(28) = -2.41, p = .023. *Criticality* was also observed more among older subjects (M= 25.40, SD = 1.34) than younger subjects (M = 21.48, SD = 2.58): t(28) = -3.27, p = .003. No relationships were observed between healthy subscale scores, mean BMMR scores and the GTCs.

4.2.2 Correlation data

The current study explored possible relationships between music use for mood regulation, personality and healthy and unhealthy listening habits and outcomes from MV watching. It also investigated relationships between survey scores and answers to the Likert scale questions. Tables for all correlation can be found in Appendix E.

Correlation data revealed significant correlations between HUMS subscales and other survey data. A strong negative correlation was observed between scores in the unhealthy subscale and *emotional stability* (r = -.46, p < .01). Scores for the healthy subscale were positively correlated to the trait *agreeableness* (r = .34, p < .05). The data also revealed a strong positive correlation between healthy listening and the composite BMMR score (r =.61, p < .001). No relationship between unhealthy scores and BMMR data were observed.

The study also used Likert questions designed to measure how much attention the subject paid to the MV overall, as well as whether they paid more attention to the music or the video. Correlation tables for Likert scale data and survey measures can be found in Appendix F. The data revealed that individuals with high scores in the unhealthy subscale were more less focused on the MV (r = -.42, p < .05). Furthermore, this data revealed that individuals with high unhealthy scores were less focused on the video and more focused on the music when watching MVs (r = -.48, p < .01). No significant relationships between healthy subscale scores and Likert scale questions were observed.

5. DISCUSSIONS

The purpose of the current study was to gain new insights into the psychological processes involved when watching MVs. It used qualitative and quantitative design methods in order to address the following research questions:

1) What are the key features of the MV experience?

2) How do these key features relate to each other (for example, do certain reasons for watching lead to certain cognitive or emotional outcomes?)

3) How do individual factors such as personality and healthy listening habits help explain these key features of the MV experience?

The qualitative component of the study was designed with the intention of providing new information about the key features, in particular: why do individuals watch MVs, and do individuals watch MVs to regulate affect? What kind of affective or cognitive outcomes occur during these experiences? Do MVs have the ability to change how they understand the music's meaning, and if so, how long do these effects last? Themes pertaining to how the individual engaged with the music were categorised across all three key features of the MV experience. These thematic elements were categorized based on: how MVs affected the individual's mood or emotional state, what structural aspects of the music or video they attended to, and how the MV affected emotional reactions or their interpretation of the music in subsequent listening episodes. Data also revealed some insight about the contextual reasons for choosing MVs, however more research exploring these contexts is required.

No hypotheses were formed to address possible findings from the open-ended questionnaire component, however, the quantitative component of the study *was* hypothesis driven. The first hypothesis asserted that personality differences in music evoked emotion should also apply to MVs. Furthermore, individuals with unhealthy music listening habits were expected to experience more negative outcomes to MVs (compared to healthier listeners). The second hypothesis asserted that outcomes from MV watching would have implications on future listening outcomes. In addition, it was speculated that individuals high in unhealthy listening habits would also experience negative outcomes from future music listening episodes, especially if had any negative reactions to the MV. Some significant relationships were observed; however, the quantitative findings are especially limited given the small sample size. Despite this, these findings have provided a new look into the psychological function of MVs as a music listening activity, as well as a form of social media engagement where the music listening component is secondary to the primary activity.

The study used theoretical knowledge from contrasting branches of music psychology and applied to them to a less-traditional music-listening setting. The study was primarily driven by the qualitative component, which succeeded in its aim to provide a detailed framework for analysing music videos. Although the study provides interesting new insights into the MV listening experience, limitations and suggestions for future research are also discussed.

5.1 Key features of the MV experience

Key features of the experience were described as categories across three levels: Antecedents, Experience Outcomes and Subsequent outcomes. Data from the content analysis provided new information on the reasons for choosing MV over other music media. They also provided insights into the reasons individuals avoided this type of media, in the case participants had unfavourable experiences with them in the past.

Antecedent reasons were labelled: *psychological, music-listening,* and *media-use* reasons. Psychological reasons were the least frequently reported for choosing to watch MVs over listening alone. Only one participant reported using MV to change a negative emotional state. The other participant who reported using MV to for affect related reasons reported watching MVs as part of "taking a break". This may suggest that individuals do *not* generally choose to watch MVs to regulate mood. Previous research has shown that listening to music for the purpose of regulating affect accounts for approximately one third of all music listening episodes, unless individuals were already in a negative emotional state (Randall & Rickard, 2017). Although subjects did not appear to choose watching MVs over other musical activities in order to achieve a positive emotional state, it may have occurred as a result of aesthetic enjoyment, especially in the cases when individuals experienced strong emotional responses to the MV or uncovered a deeper meaning than when they listened to the song previously. It is also possible that subjects were simply unaware of when they were watching MVs for mood-regulatory purposes, since listening to music for mood-regulatory purposes is often a subconscious decision (Saarikallio & Erkkilä, 2007). Further research is required in order to achieve a better understanding of the use of MVs to regulate affect.

Three features of the experiences were described in the Experience Outcomes level. These were categorised as *Deep Affect, Meaning Driven* and *Feature Focus*, and provided insights into whether the subject was focused on emotional aspects of the MV, what the meaning of the music was or focused on how the visuals reflected or highlighted features of the music. Since some

subjects provided more detailed responses than others, some participants described one or more features of the experience. For this reason, no conclusions can be drawn about the frequency of each type of experience, only that these categorically different features exist. The same is true for the Subsequent Outcome categories. Two features from the Experience Outcomes had equivalents at the Subsequent Outcome level: *Deep Affect* was the experience equivalent for *New Affect* and *Meaning Driven* was the experience equivalent for *New Meaning*. Experience Outcomes provided new insights into whether MVs had the ability to evoke emotions similarly to how it would evoke emotions on its own, as well as whether MVs could influence the perception of the music during the MV watching episode.

Categories in the Subsequent Outcomes level provided insights into whether key features from the Experience carried over to future listening episodes. The most novel finding was the occurrence of *Mental Imagery*. Furthermore, two thirds reported this imagery as being connected to a specific scene at a specific time in the music. This finding supports the CAM model, which asserts that structural congruencies between the music and the video become the object of attention (Cohen, 2001). Although this model was applied to film music, similar processes emerged in the data suggesting that structural/temporal congruencies between the music and video were particularly memorable. These moments became the object of reference in future listening episodes, and it appeared that for many individuals this mental imagery recall was automatic and maybe even permanent, based on findings in the data suggesting these associations could last for years. Many participants referred to MVs that were released over a decade ago, however it cannot be established with certainty whether they first watched the video when it was released, or if they were introduced to it recently. This limitation should be addressed in future studies and measures should be developed to control any confounding effects this may have on results. Accounts of mental imagery in this sample support Boltz, Schulkind and Kantra's (1991) findings, as well as Cohen's (2001) CAM model. It is possible that the structural features of both the music and the visual scene play a major role in determining what type of cognitive processes are used to decode the MV, thus also determining its effect and role in subsequent listening episodes. Future research could benefit from looking at different types of MVs (preferably those found on YouTube's most watched list), looking at what structural features are similar and unique among them, and using this as a starting point for future research aimed at analysing the effects of audio-visual representations of music engagement.

5.2 How do key features relate to each other?

Chi-square tests were conducted in order to establish whether key features from each experience level were independent or related to each other. *Social media* reasons for watching MV were the only Antecedent related to any Experience or Subsequent Outcome, suggesting that watching MVs as part of social media engagement was related to *Meaning Driven* experiences. Interestingly, both *music-listening* and *social-media* reasons were related to the GTC *Thought-provoking,* suggesting that, regardless of their initial reason for watching, individuals are interested in MVs that make them think about personal or societal issues.

Chi-square tests revealed associations between similar outcomes from both the Experience and Subsequent Outcome levels. For example, individuals with *Deep Affect* experiences (experiences characterised by strong affective reactions) were likely to have this experience carry-over to future listening experiences, resulting in *New Affect*. Although no relationships between *Meaning Driven* experiences and *Deep Affect* were observed, both of these Experience Outcomes were related to the Subsequent Outcomes *New Affect*, suggesting that new affective responses may result as a result of finding new meaning about the music from the visual component. Although the individual may not characterise their experience based on the affective outcomes from the initial MV watching episode, it still has implications on future affective outcomes when listening to the music on its own. *Mental Imagery* was the most frequently reported phenomenon across all three levels, however no relationships were observed between this feature and other nominal data categories, nor could it be explained by individual differences. These results are still limited, however, since more than three quarters of the sample reported experiencing some sort of mental imagery from the MV in subsequent listens; it is possible that there are traits which could help explain this phenomenon that were not measured in this study.

The study successfully provided new insights in respect Antecedent, Experience and Subsequent Outcome categorical themes and scores from the survey component. Only one of the thematic categories form the data was related to reports of *Mental Imagery;* reports of *connection and empathy* during MV watching were related to experiencing *Mental Imagery*. Half of the sample from the current study asserted that MVs were enjoyable when they depicted themes that were evident in the music itself. This included reports that suggested the MV ought to feature a visual representation of the lyrics (however not all participants specifically mention lyrics). Previous research has suggested that when the music and video are affectively congruent it accents this emotional character (Bolivar, Cohen, & Fentress, 1994; Boltz, Schulkind, & Kantra, 1991). It is

unclear whether the MV needs to meet their current expectation of what the music is about, or if a personal connection to the music or artist is necessary. It is possible that, for some, their own personal interpretation does not need to be accurate in order for the MV to be impactful, so long as the visuals make *some sense* with how the music *could* be perceived. It is possible that mental imagery is made more salient when content from the video supports their connection to the music, however these results suggest this is not a necessarily a prerequisite for this type of outcome. Future research should evaluate how traits such as empathy factor into the MV experience.

5.3. Key features of the MV experience and the role of individual differences

The study aimed to understand the role of individual differences in explaining key features of the experience, and two hypotheses were suggested. Results from this study provided some support for the first hypothesis: individual differences such as personality and healthy listening use had an effect on the outcomes experienced during MV watching. Personality traits were able to explain, to some extent, why some participants were more likely to engage with MVs than others. The study found that extroversion was related to the *music-listening* Antecedent category, which involved watching MVs because they were interested in the music and not just engaging with social media. These findings are in line with previous research which reports emotional stability as a negative predictor of social media use, whereas extroversion is a positive predictor (Correa, Hinsley, & de Zuniga, 2010).

Many participants reported experiencing long-term changes in interpretations or listening outcomes as a result of watching MVs. Although the data also supported the hypothesis that individuals with unhealthy listening habits and low scores in emotional stability would be more likely to experience negative outcomes during their MV experience, there was not enough conclusive evidence to support the hypothesis that individuals experience similar affective responses to MVs as they do during music listening. How much they were affected by the MV was controlled in the Likert-scale component, however no significant relationships were observed. This does not necessarily mean the relationship does not exist; many participants had difficulty asserting whether or not they could compare MV watching with audio-only listening. Future research should implement a design that controls for emotional responses in both music listening and MV watching conditions.

In this study, negative outcomes were related to lower scores in the trait *emotional stability,* which is in line with previous studies that found correlations between this trait and experiencing more negative than positive emotions from music listening (Vuoskoski & Eerola, 2011; Liljeström,

Juslin & Västfjäll, 2012). Low scores in emotional stability were also related to the Subsequent Outcome theme *New Meaning*. Interestingly, reports of the MV ruining the song were more common among older participants. This may be related to the finding which reported older participants disliked MVs that showed featured content negative behaviours or that were overly commercial. This suggests that over the course of young adulthood they become more critical of the media they consume. Therefore, it is possible these critical attitudes are not indicative of poor-mental health and well-being, but better media literacy skills and a tendency to be less susceptible media influence. Overall, and individual's ability to show agency as well as engage in positive emotional health and well-being habits may have the most salient effects on the outcomes experienced from MV watching.

There was some evidence in support of the second hypothesis – that individual differences would also have implications on how the music was perceived in the future, however only to an extent. Interestingly, low emotional stability scores were related to the Subsequent Outcome *New Meaning,* suggesting information from the MV was more likely to influence their interpretation of the music's meaning in subsequent listening episodes compared to other traits. Although a similar relationship was observed for individuals with lower openness scores their scores were still quite high (*Mdn* = 5.00), compared to those who did not (*Mdn* = 6.50). This may suggest that higher scores in openness does not necessarily indicate that an individual is open to having their interpretation changed, but perhaps only that they are open to engaging with the media in the first place. Further research is required to support this speculation.

Overall, although some relationships in the data support the second hypothesis, there were a number of observations that suggest the relationship is not that simple. The expectation that affective outcomes would have more salient long-term effects for neurotic or unhealthy listeners was not observed. In particular, there no relationship was observed between *New Affect* with neither HUMS subscales or personality scores, nor were there any relationships between reports of long-term implications on future listening episodes and these measures.

5.4. Key findings and important conclusions

The study successfully managed to provide a framework for future research to investigate MVs as a music listening phenomenon. The exploratory component of the study gathered new insights, and a three-level framework was created to address the Antecedents, Experience Outcomes and Subsequent Outcomes characteristic of MV watching. Although the quantitative measures were employed to explore predetermined hypotheses, they also provided insights about personality traits

and general *themes* (i.e. the GTCs) of the MV experience that were not considered before the data collection process. In particular, these results suggest that it is not necessarily the use of music for mood regulation or healthy or unhealthy habits that exercise the greatest effects on the individuals experience; individuals who experienced fewer or no changes in their music listening experience appeared less influenced by media. In particular was this theme of *detachment,* that provided insights about how individuals with a greater sense of *agency* appeared to have fewer negative outcomes than individuals who were more easily influenced by MV content. In other words, individuals who were able to remain attached to their own personal interpretations

   The results showed a significant relationship between low unhealthy scores and participants who reported no change in outcomes from watching the MV that would distinguish it from audio-only music listening. They appear to be more detached from the content of the MV, and do not let it interfere with their music listening goals. It may be that these individuals are not necessarily watch MVs by songs they are already emotional connected to, and therefore are at less of a risk of disassociating from their own personal interpretation of the music. On the other hand, high unhealthy scores were related to experiencing negative outcomes during their MV listening experience, as were low scores in emotional stability. This supports previous research that suggests a relationship between emotional health and well-being and music listening strategies (Chin & Rickard, 2014; Saarikallio, Gold, & McFerran, 2015).

   Personality was also a factor which contributed to subjects' attitudes towards and outcomes from watching MVs. Individuals who scored high in the trait agreeableness tended to be more critical of MVs. Unlike individuals who reported themes of *detachment*, being critical of MVs did not correspond to HUMS scores. Participants with higher scores in the trait openness, however, tended to prefer their own interpretation of the music over that which is presented in the MV, suggesting that MVs may not suit their goals when listening for mood regulation or emotional reasons. Relationships between MMR strategies and qualitative themes found *Meaning Driven* experiences were related to higher scores for *discharge.* This finding suggests that individuals who wish to discharge or vent negative emotions during listening experiences are interested in how the music is interpreted visually. No other relationships were observed between *Meaning Driven* experiences and other factors, including emotional stability and UH scores. It is possible that the visuals in MVs make the emotional character of the music more salient, making MVs an efficient music listening tactic for individuals who frequently use music to discharge or vent negative emotions.

5.5 Limitations and Directions for future research

The study provided new insights about MVs as a music listening activity, however the findings only scratch the surface. Future research using a larger sample size could benefit from a more directed set of survey questions in order to attain a greater understanding of what contextual factors lead to favouring MVs over other listening activities. An ESM design is an appropriate way to study these factors, especially now that data collection applications can be downloaded on participants smartphones (Randall & Rickard, 2017; Randall & Rickard, 2014). Given that watching MVs on smartphones was reported by 75% of participants, an ESM study could potentially be an ideal means of uncovering insights into antecedent and contextual factors for this type of listening.

The current study grouped adolescents and young adults together, however future research could benefit from looking at these two groups separately and comparing them. Furthermore, the HUMS scale was initially developed in order to measure the link between music use and well-being in *adolescents*, whereas the current study looked at a slightly older sample. Future studies that compare adolescents and young adults could give better insights into whether experiences differ with age. The results from the current study found that older participants disliked MVs more frequently than adolescents in this sample. Since the sample size was relatively small and consisted of more young adults than adolescents, this conclusion should be supported with more research that looks at these age groups separately.

The results from the study also show how theoretical knowledge from different branches of music psychology (in this case, music-evoked emotion, music for mood regulation, audio-visual perception and music for psychological development) can be applied in order to better understand a method of music listening that has evolved significantly since it was first of interest to researchers. An integrative review of literature analysing studies from the early days of MVs to research conducted more recently could help at understanding what perspectives have been the most explored and help direct future research.

The convergent design used in the current study was successful in that it both sets of data assisted by corroborating the results of the other. However, the open-ended questionnaire component of this study had several limitations. The first limitation, which has already been mentioned, comes from the fact not all participants contributed the same amount of data. As a result, there may be some holes in the data, and some participants may not have provided a complete or accurate account of their experience. Since the questionnaire was done online, the researcher was not able to ensure the subject properly understood the question. Although participants all seemed to understand the questions in the pilot, some participants in the current

study did not necessarily answer the question, making their data confusing, difficult to work with, or had to be discarded from the qualitative analysis. A study with more directed survey questions would address this, as well as narrow in on specific components of their experience. The current study successfully brought to light aspects of the MV experience that could benefit from a more directed survey, as it would eliminate the risk of participants not reporting any data of interest. Future research could benefit from applying alternative scales to measure individual differences, especially since some of the themes in the GTCs reflected personal traits or possible aptitudes (dance and music). For example, one of the GTCs was *empathy and connection*: a trait which can be measured using scales such as the Interpersonal Reactivity Index (see Davis, 1983) or scales which measure an individual's need for *belonging* (see Leary, Kelly, Cottrell, & Schreindorfer, 2013). A number of participants mentioned in their responses whether they had any dance or musical background. Future research would benefit from scales which measure musicianship and dance ability in order.

The current study used self-selected MVs, self-reports and survey measures in order to better understand the individual's experience. Previous research on music and film has made use of experimental designs where the audio and the video are controlled in order to measure or analyse a predicted outcome. Self-selected MVs were necessary for the current study, however future research which with interest in subsequent outcomes in particular could benefit from research designs similar to those found in Boltz, Ebendorf and Field's (2009) study, which controlled the audio and video presented to participants. Showing the same MV to each participant may lead to more conclusive findings concerning what factors lead to particular subsequent outcomes such as mental imagery. It may provide more conclusive evidence about the effects of MVs on subsequent listening episodes in the event the individual is not already personally connected to the music. Although the results from this study provide new insights into the individuals reasons for watching MVs, the variance in length of responses between participants is indicative that not all participants provided equally detailed reports of their experience, perhaps omitting details that could be of interest to the project's research questions. Future research may benefit from a more directed survey in order to explore relationships between personality, listening habits and other factors that lead to engaging with MVs.

6. CONCLUSIONS

MVs have evolved so much over the last three decades, and music psychology research has not kept up with these developments. It is interesting to me that this is the case given the type of music psychology research that has emerged in the last twenty years. For example, visual imagery is a mechanism for music evoked emotion, however these mechanisms are still applied to music listening *only* and not necessarily meant to be applied to audio-visual contexts. Research on film music has benefited from research in music evoked emotions, however there has been little interest in MVs specifically.

MVs have only continued to become a relevant part of popular culture since they were first of interest to researchers. It is interesting to me that so many branches of research in music psychology could benefit from looking at music videos; they provide a unique context for listening, and context has been *in vogue* for music psychologists recently. They are enormously popular among youth, but their connection to use of music for psychological development has been mostly overlooked. It is hard for some people (e.g. the ones funding the research) to see the use in studying music videos, perhaps because their commercial nature and link to popular culture makes them off-putting to some researchers. Ignoring them means ignoring an important trend in current culture (and by extension, research in arts and the humanities), and ignores the impact that technological advancements have had on *all of these branches of research*. Furthermore, by ignoring them you also ignore the underlying fact that changes in listening trends, including contextual and situational factors, have occurred over a *very short period of time*. If music psychologists want their research to remain relevant to the humanities (and by extension – funded), it is worth looking into these trends now as they continue to develop.

References

Baltazar, M., & Saarikallio, S. (2016). Toward a better understanding and conceptualization of affect self-regulation through music: A critical, integrative literature review. *Psychology of Music, 44*(6), 1500-1521.

Bennett, S. (2014). Teens, Millennials Prefer YouTube to Facebook, Instagram and Twitter. From *AdWeek*. Retrieved October 28, 2016 from: http://www.adweek.com/socialtimes/ teens-millennials-twitter-facebook-youtube/496770

Bolivar, V. J., Cohen, A. J., & Fentress, J. C. (1994). Semantic and formal congruency in music and motion pictures: Effects on the interpretation of visual action. *Psychomusicology: A Journal of Research in Music Cognition*, *13*(1-2), 28.

Boltz, M. (2013). "Music videos and visual influences on music perception and appreciation: should you want your MTV?" In Tan, S., Cohen, A., Lipscomb S., & Kendall, R (Eds.), *The Psychology of Musical Multimedia*. UK: Oxford University Press. pp. 213-230.

Boltz, M., Ebendorf, B., & Field, B. (2009). Audiovisual Interactions: the impact of visual information on music perception and memory. Music Perception, (27)1, 43- 59.

Boltz, M., Schulkind, M., & Kantra, S. (1991). Effects of background music on the remembering of filmed events. *Memory & Cognition*, *19*(6), 593-606.

Chamorro-Premuzic, T., & Furnham, A. (2007). Personality and music: Can traits explain how people use music in everyday life?*British Journal of Psychology, 98*(2), 175-185.

Charmaz, K., & McMullen, L. M. (2011). *Five ways of doing qualitative analysis: Phenomenological psychology, grounded theory, discourse analysis, narrative research, and intuitive inquiry*. Guilford Press: NY.

Chin, T., & Rickard, N. S. (2014). Emotion regulation strategy mediates both positive and negative relationships between music uses and well-being. *Psychology of Music*, *42*(5), 692-713.

Cohen, A. J. (2001). "Music as a source of emotion in film", In Juslin, P. & Sloboda, J. (Eds.), *Music and Emotion: Theory and Research*. Oxford University Press: New York, pp. 249-272.

Cohen, A.J. (2013). "Congruence-association model of music and multimedia: origin and evolution". In Tan, S., Cohen, A., Lipscomb S., & Kendall, R (Eds.), *The Psychology of Musical Multimedia*. UK: Oxford University Press. pp. 17-46.

Correa, T., Hinsley, A. W., & De Zuniga, H. G. (2010). Who interacts on the Web?: The intersection of users' personality and social media use. *Computers in Human Behavior*, *26*(2), 247-253.

Creswell, J.W., & Plano Clark, V.L. (2018). *Designing and conducting mixed research methods* (Third edition.). Thousand Oaks, California; London, United Kingdom; New Delhi, India; Singapore: SAGE.

Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, *44*(1), 113.

Driscoll, D. L., Appiah-Yeboah, A., Salib, P., & Rupert, D. J. (2007). Merging qualitative and quantitative data in mixed methods research: How to and why not. *Ecological and Environmental Anthropology (University of Georgia)*, 18.

Elo, S., & Kyngäs, H. (2007). The qualitative content analysis process. *Journal of Advanced Nursing*, *62*(1), 107-115.

Gabrielsson, A., & Wik, S. L. (2003). Strong experiences related to music: a descriptive system. *Musicae Scientiae*, *7*(2), 157-217.

Garrido, S., & Schubert, E. (2011). Individual differences in the enjoyment of negative emotion in music: A literature review and experiment. *Music Perception: An Interdisciplinary Journal*, *28*(3), 279-296.

Garrido, S., & Schubert, E. (2013). Adaptive and maladaptive attraction to negative emotions in music. *Musicae Scientiae*, *17*(2), 147-166.

Goldberg, M. E., Chattopadhyay, A., Gorn, G. J., & Rosenblatt, J. (1993). Music, music videos, and wear out. *Psychology & Marketing, 10*(1), 1-13.

Gosling, S. D., Rentfrow, P. J., & Swann Jr, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in personality*, *37*(6), 504-528.

Gross, J. J. (1998). Antecedent-and response-focused emotion regulation: divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology*, *74*(1), 224.

Gross, J. J. (1998b). The emerging field of emotion regulation: an integrative review. *Review of General Psychology*, *2*(3), 271.

Hansen, C. H., & Hansen, R. D. (2000). "Music and music videos" in Zillmann D. and Vorderer, P. (Eds). *Media Entertainment: The Psychology of its Appeal*. New York City, NY: Routledge Press. pp.175-196

Juslin, P. N., & Laukka, P. (2004). Expression, perception, and induction of musical emotions: A review and a questionnaire study of everyday listening. *Journal of New Music Research*, *33*(3), 217-238.

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.

Juslin, P. N. (2013). From everyday emotions to aesthetic emotions: towards a unified theory of musical emotions. *Physics of Life Reviews*, *10*(3), 235-266.

Juslin, P. N., Harmat, L., & Eerola, T. (2014). What makes music emotionally significant? Exploring the underlying mechanisms. *Psychology of Music*, *42*(4), 599-623.

Kistler, M., Rodgers, K. B., Power, T., Austin, E. W., & Hill, L. G. (2010). Adolescents and music media: toward an involvement-mediational model of consumption and self‑concept. *Journal of Research on Adolescence, 20*(3), 616-630.

Krause, A. E., North, A. C., & Hewitt, L. Y. (2015). Music-listening in everyday life: Devices and choice. *Psychology of Music*, *43*(2), 155-170.

Krause, A. E., & North, A. C. (2017). Pleasure, arousal, dominance, and judgments about music in everyday life. *Psychology of Music, 45*(3), 355-374. doi: 10.1177/0305735616664214

Kreutz, G., Schubert, E., & Mitchell, L. A. (2008). Cognitive styles of music listening. *Music Perception: An Interdisciplinary Journal*, *26*(1), 57-73.

Laiho, S. (2004). The psychological functions of music in adolescence. *Nordic Journal of Music Therapy*, *13*(1), 47-63.

Larson, R. (1995). Secrets in the bedroom: adolescents' use of media. *Journal of Youth and Adolescence, 24*(5), 535-550.

Larsen, R. (2000) Toward a Science of Mood Regulation. *Psychological Inquiry, 11*, 129-141.

Leary, M. R., Kelly, K. M., Cottrell, C. A., & Schreindorfer, L. S. (2013). Construct validity of the need to belong scale: Mapping the nomological network. *Journal of Personality Assessment*, *95*(6), 610-624.

Liikkanen, L. A., & Salovaara, A. (2015). Music on YouTube: user engagement with traditional, user-appropriated and derivative videos. *Computers in Human Behavior*, *50*, 108-124.

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.

North, A.C, Hargreaves, D.J., & O'Neill, S.A. (2000). The importance of music to adolescents. *British Journal of Education Psychology*,*70*, 255-272.

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

Mastronardi, M. (2003). Adolescence and media. *Journal of Language and Social Psychology*, *22*(1), 83-93.

McFerran, K. S., & Saarikallio, S. (2013). Depending on music to make me feel better: who is

responsible for the ways young people appropriate music for health benefits. *The Arts in Psychotherapy*, *41*(1), 89-97.

Miranda, D. (2013). The role of music in adolescent development: much more than the same old song, *International Journal of Adolescence and Youth, 18*(1), 5-22. DOI: 10.1080/02673843.2011.650182

Morse, J.M. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing Research, 40*, 120-123.

Peltola, H.-R. and Eerola, T. (2016). Fifty shades of blue: Classification of music-evoked sadness. *Musicae Scientiae*, 20, 84–102.

Price, R. (April 4, 2017). *Teens think Google is cool… according to a study by Google.* Retrieved April 7, 2017 from: *http://www.businessinsider.com/teens-think-google-is-cool-study-2017-4?r=UK&IR=T&IR=T*

Randall, W. M., Rickard, N. S., & Vella-Brodrick, D. A. (2014). Emotional outcomes of regulation strategies used during personal music listening: A mobile experience sampling study. *Musicae Scientiae*, *18*(3), 275-291.

Randall, W.M. & Rickard, N.S. (2016). Reasons for personal music listening: A mobile experience sampling study of emotional outcomes. *Psychology of Music*. *45*(4), 479-495.

Randall, W.M. & Rickard, N.S. (2017). Personal music listening: a model of emotional outcomes through mobile experience sampling. *Music Perception*. *34*(5), 501-514.

Saarikallio, S., & Erkkilä, J. (2007). The role of music in adolescents' mood regulation. *Psychology of Music, 35*(1), 88-109.

Saarikallio, S. (2008). Music in mood regulation: Initial scale development. *Musicae Scientiae*, *12*(2), 291-309.

Saarikallio, S. (2011). Music as emotional self-regulation throughout adulthood. *Psychology of Music*, *39*(3), 307-327.

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.

Saarikallio, S., Gold, C., & McFerran, K. (2015). Development and validation of the healthy-unhealthy music scale. *Child and Adolescent Mental Health*, *20*(4), 210-217.

Shevy, M. (2013). "Integrating media effects research in music psychology". In Tan, S., Cohen, A., Lipscomb S., & Kendall, R (Eds.), *The Psychology of Musical Multimedia* (pp. 66-87). NY: Oxford University Press.

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

van Goethem, A. & Sloboda, J. (2011). The function of music for affect regulation. *Musicae Scientiae, (15)* 2, 208-228.

Venkatesh, V., Brown, S. A., & Bala, H. (2013). Bridging the qualitative-quantitative divide: Guidelines for conducting mixed methods research in information systems. *MIS Quarterly*, *37*(1).

Vines, B. W., Krumhansl, C. L., Wanderley, M. M., & Levitin, D. J. (2006). Cross-modal interactions in the perception of musical performance. *Cognition*, *101*(1), 80-113.

Vuoskoski, J.K., & Eerola, T. (2011). A comparison of the discrete and dimensional models of emotion in music. *Psychology of Music, 39*(1), 18-49.

Zentner, M., Grandjean, D., & Scherer, K. R. (2008). Emotions evoked by the sound of music: characterization, classification, and measurement. *Emotion*, *8*(4), 494.

APPENDIX A

Thank you for participating in our study!

You will be asked to fill out three surveys and a series of open-ended questions about your experiences watching music videos. The entire questionnaire should take about 30 minutes to complete, however you have seven days to complete the study once you have started it. You can save and exit at any point as well as go back and add to your answers if you wish. After 7 days you will no longer be able to access the study or change your answers.

During the questionnaire you will be asked to watch a music video. Try to pick one you are already familiar with, by an artist you enjoy. You will be asked to provide a url link to this video.

Your information and responses are kept anonymous and are used solely for research purposes. We ask that you try to provide detailed answers, and that you please answer openly and truthfully to the best of your ability. As a participant, you have the right to stop the study at any point, including before, during and after data collection. The results of this study may be discussed in any academic conferences or presentations about the thesis topic. All data will remain anonymous. Subjects who wish to see the results of the study will be informed via email, print or other medoth of their choosing.

In the event you wish to discontinue you rparticipant, you may do so before the results are published by contacting Johanna Wilson at johanna.n.wilson@student.jyu.fi .

Agreement.
I have been informed of the purpose and content of the research and the use of its research materials. I can withdraw from the research or refuse to participate at any time. I understand that I have the right to stop the the study at any point, including before, during and after data collection prior to publishing. I give my consent to the use of my test results and the data collected on me in such a way that it is impossible to identify me as a person. I hereby agree to participate in the study in accordance with the instructions given by the researchers.

All questions (not including survey measures) from Qualtrics questionnaire.

1. Approximately how many music videos do you watch on average every week?
2. In what kind of environment, situation, or circumstances would you choose to watch a music video over listening to the music alone?
3. Do you ever rewatch music videos that you enjoy? If so, how frequently?
4. Which Device do you usually watch music videos on? (You may select more than one answer for this question)
   i. Laptop/computer
   ii. Tablet (e.g. iPad)
   iii. Smartphone
   iv. All of the above
   iv. Other (please specify)

5. In a separate tab, please watch a music video (keep this tab open). Please enter the url of the music video you watched here.

Likert Scale questions

A1. On a scale of 1 to 7, how much of your attention was focused on the video you just watched?

1 - Not focused at all
2 - I barely focused
3 - Sometimes I was focused
4 - I focused for about half of it
5 - I focused for most of it
6 - I focused for almost all of it
7 - I was completely focused

A2. How much of your attention is focused on the music in comparison to the video? Please indicate a number between 1 and 7 where:

1 - I focus completely on the music (not watching the video at all)
2 - I mostly focused on the music, occasionally I focus on the video
3 - I am slightly more focused on the music
4 - I focus on both equally
5 - I am slightly more focused on the video
6 - I focus mostly on the video, occasionally I focus on the music
7 - I focus completely on the video (not listening to the music at all)

EM1. The video affected my mood a lot.

1 - Strongly disagree
2 - Moderately disagree
3 - Disagree a little
4 - Neither agree nor disagree
5 - Agree a little
6 - Moderately agree
7 - Strongly agree

EM2. The video put me in a better mood.

1 - Strongly disagree
2 - Moderately disagree
3 - Disagree a little
4 - Neither agree nor disagree
5 - Agree a little
6 - Moderately agree
7 - Strongly agree

The following questions are aimed at better understanding how music videos affect your experience with the music. You may refer to any music video in your responses; you are not limited to the video you watched before starting the questionnaire. Please be as descriptive and honest as you can.

1. Do you think the video enhances the music listening experience? Why or why not?

2. Describe your thought processes when watching music videos.
   Do you have similar thoughts when listening to the music alone? – If not, how do they differ?

3. Has the content of a music video ever affected or changed your interpretation of a song's meaning? If yes is it:
   Short term change (only while watching the video?)
   Long term change (every time you listen to the song)?
   or somewhere in between? Please describe.

4. Do certain scenes from the music video come to mind when you are listening to the music on its own? If yes, please give an example?

5. What kind of emotional outcomes or changes in mood do you experience when you watch music videos?

6. Is your emotional reaction to the music greater when you watch music videos? Or is your emotional reaction greater when you're only listening (not watching the video)?

7. Have music videos influenced your perception of or feelings towards the artist? If so how?

8. Do you believe music videos have the ability to influence behaviour, whether in yourself or others? Please explain.

9. In your opinion, what makes a good music video?

10. Please include any other thoughts, opinions or feelings that you'd like to add that were not covered in the questionnaire. You may also include any feedback you habe about the study here.

11. Please enter your age (in years)

12. What is your nationality?

13. Please indicate your gender

   (Exit page). Thank you for participating in our study! If you would like to see the final results of the study, please enter your email below.

APPENDIX B

Graphs for preferred devices and contexts for Antecedents

Preferred Devices
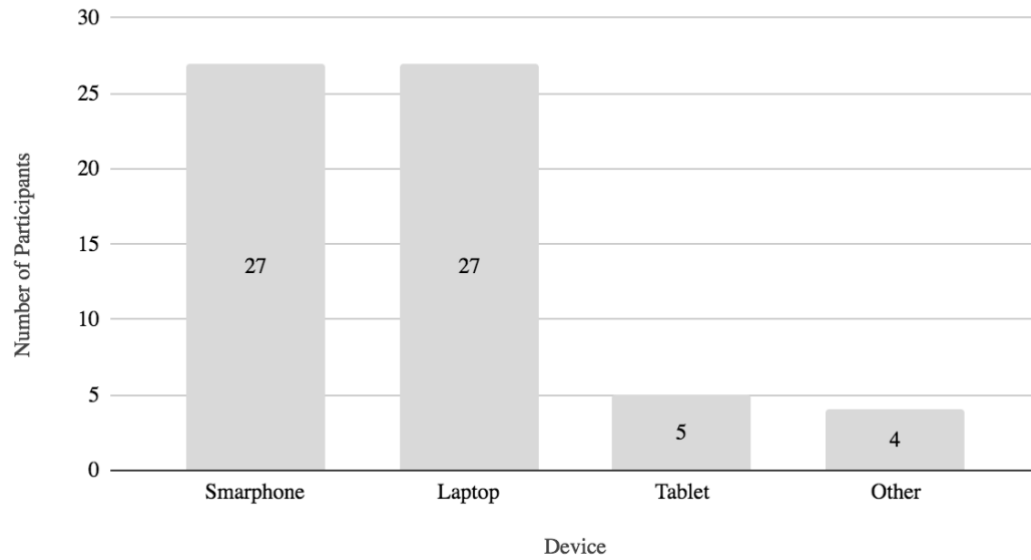
Preferred Context
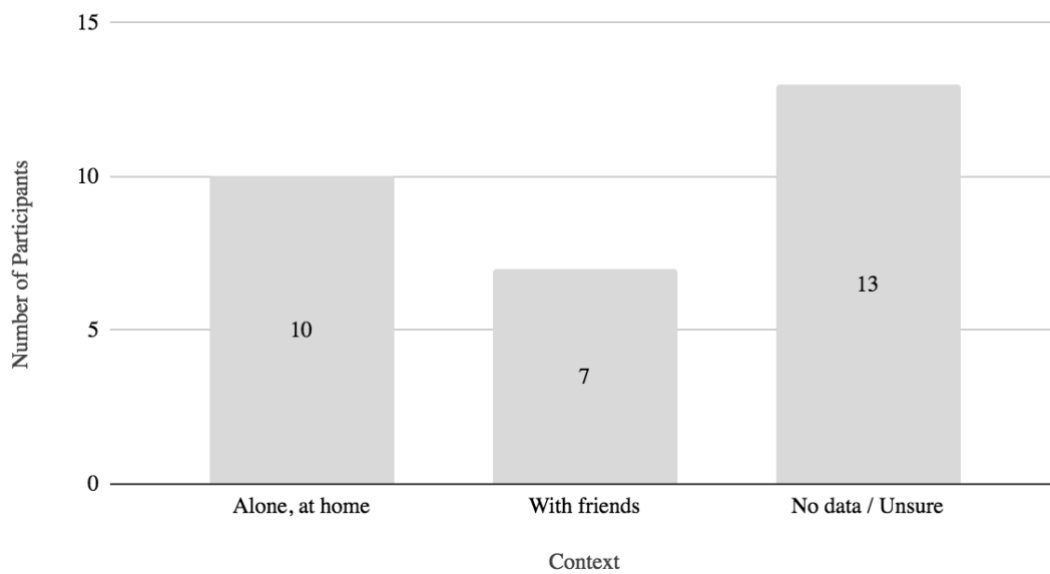
Independent sample t-tests for Antecedent categories and quantitative measures

	Social Media Use		Music-Listening		Psychological Reasons	
	U	p	U	p	U	p
Age^	0.86	.395	0.27	.788	0.19	.848
Healthy	73.00	.239	111.00	.983	70.00	.140
Unhealthy^	1.99	.056	1.18	.248	0.24	.811
Extroversion^	-0.41	.689	-2.92	.007**	0.82	.419
Agreeableness^	-0.96	.344	1.42	.167	0.03	.976
Emotional Stability	99.50	1.000	110.00	.950	83.00	.361
Openness	94.50	.823	91.50	.399	42.00	.007**
BMMR^	-0.64	.530	-0.81	.423	0.44	.667

^ Student's t (all others Mann-Whitney), * $p < .05$, ** $p < .01$

APPENDIX C

Independent sample t-tests for Experience Outcomes categories and quantitative measures

	Deep Affect		Meaning Driven		Feature Focused		Negative Outcomes	
	U	p	U	p	U	p	U	p
Age^	-1.61	.118	-0.18	.859	0.77	.447	2.66	.013 *
Healthy	98.00	.571	89.50	.657	72.50	.231	94.00	.807
Unhealthy^	-0.03	.973	0.03	.979	1.96	.060	2.79	.009**
Extroversion^	0.61	.544	-1.20	.240	0.04	.968	0.28	.779
Agreeableness^	-0.78	.440	0.80	.432	-0.80	.432	0.96	.344
Emotional Stability	86.00	.284	94.50	.824	61.50	.091	39.50	.008**
Openness	93.00	.435	64.50	.118	61.50	.090	96.50	.893
BMMR^	-0.67	.506	-1.54	.135	-0.11	.915	0.52	.606

^ Student's t (all others Mann-Whitney), * $p < .05$, ** $p < .01$

APPENDIX D

Independent sample t-tests for Subsequent Outcomes categories and quantitative measures

	New Affect		New Meaning		Mental Imagery (all reports)		Long-term Change		No Change		Disassociation	
	U	*p*	*U*	*p*	*U*	*p*	*U*	*p*	*U*	*p*	*U*	*p*
Age^	-1.61	.118	0.11	.913	0.35	.729	1.01	.322	-0.57	.572	-2.71	.011*
Healthy	98.50	.586	86.50	.732	46.50	.191	72.50	.113	62.50	1.000	58.50	.496
Unhealthy^	-1.34	.191	-2.01	.054	-0.92	.364	-1.91	.067	2.19	.037*	0.17	.868
Extroversion^	0.38	.705	0.95	.350	0.87	.393	1.85	.075	-0.80	.430	-1.48	.149
Agreeableness^	-0.94	.356	0.20	.847	-0.60	.554	0.54	.591	0.20	.843	-0.71	.482
Emotional Stability	96.00	.515	42.50	.019*	52.00	.307	63.50	.049*	39.50	.206	51.50	.295
Openness	100.50	.642	34.50	.006**	68.00	.854	56.50	.023*	23.50	.030*	46.50	.188
BMMR^	-0.74	.463	-0.93	.361	-0.88	.384	0.32	.755	1.10	.280	0.93	.362

^ Student's t (all others Mann-Whitney), * p < .05, ** p < .01

APPENDIX E

Independent sample t-tests for the General Thematic Categories (GTCs) and all quantitative measures

	Connection and Empathy	Gesture and Choreography	Artist's Interpretation	Personal Interpretation
	U	*U*	*U*	*U*
Age	0.19^	83.00	2.71^*	0.03^
Healthy	100.00	59.00	91.00	89.00
Unhealthy^	-0.07	-0.19	2.09*	0.67
Extroversion	0.70^	0.43^	-0.11^	-0.69^
Agreeableness	75.00	0.61^	1.31^	-1.03 ^
Emotional Stability	91.00	70.00	95.50	93.50
Openness	65.50	62.50	95.00	55.00
BMMR^	0.36	0.39	0.57	0.31

^ Student's t (all others Mann-Whitney), * $p < .05$, ** $p < .01$

	Thought Provoking	Storylines	Detachment	Criticality
	U	*U*	*U*	*U*
Age	0.34^	86.50	1.63^	-3.27^**
Healthy	81.00	103.50	61.00	45.00
Unhealthy^	1.05	-0.24	3.24**	-0.27
Extroversion	69.00	-0.22^	-0.87^	-1.99^
Agreeableness	0.06^	-0.19^	0.60^	-2.41^*
Emotional Stability	92.00	91.50	48.00	47.00
Openness	96.00	97.50	46.00	35.50
BMMR^	-1.94	0.66	-0.26	-0.47

^ Student's t (all others Mann-Whitney), * $p < .05$, ** $p < .01$

APPENDIX F

Correlation data for HUMS and Likert-scale data. A1, A2, EM1 and EM2 refer to the question labels from Appendix A.

	Healthy	Unhealthy	A1	A2	EM1	EM2
Healthy	—					
Unhealthy^	-.008	—				
A1	.270	-.403*	—			
A2	.048	-.512**	.429**	—		
EM1	.211	.205	.290	-.043	—	
EM2	.148	-.163	.294	.296	.423*	—

Note: * p < .05, ** p < .01, *** p < .001, ^ Pearsons r (all others Spearman's rho)

	Extroversion	Agreeable	Emotional Stability	Openness	A1	A2	EM1	EM2
Extraversion^	—							
Agreeableness^	.027	—						
Emotional stability	.143	.044	—					
Openness	.449**	.329	.354*	—				
A1	.135	.051	.494**	.011	—			
A2	.126	.033	.245	.120	.429**	—		
EM1	-.058	.089	.028	-.265	.290	-.043	—	
EM2	-.128	.213	-.181	-.124	.294	.296	.423*	—

Note: * p < .05, ** p < .01, *** p < .001, ^ Pearsons r (all others Spearman's rho)

Independent sample t-tests for gender data and all quantitative measures

	Gender
	U
Age	0.35^
Healthy	135.50
Unhealthy^	-0.33
Extroversion	-0.20^
Emotional Stability	73.00*
Openness	112.50
Mean BMMR	.32^

^ Student's t (all others Mann-Whitney), * p < .05, ** p < .01