A SELF-REGULATORY PERSPECTIVE ON

PEOPLE’S DECISION TO ENGAGE IN

LISTENING TO SELF SELECTED SAD

MUSIC WHEN FEELING SAD

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Abstract

This thesis documents the results of a PhD research project which focuses on investigating the underlying psychological processes that can explain adults’ motivations for listening to self-identified sad music when feeling sad. Even though people do often listen to sad music when feelings sad, surprisingly little research has been conducted to investigate the psychological processes that can explain this behaviour or the effects of deciding to listen to sad music when feeling sad. The research presented in the current thesis sought to fill this void.

Following an introduction to the topic and methods (Chapter 1) and a review of relevant and recent literature (Chapter 2), three chapters (Chapter 3; Chapter 4; Chapter 5) detail the results of a systematic empirical study on people’s sad music listening behaviour, their rationally for engaging in this behaviour and the self-reported effects of this behaviour. Then a discussion chapter (Chapter 6) is included in which all the findings are summarized and discussed. In the discussion chapter, limitations of the empirical studies will additionally be discussed and recommendations will be made for future research.

Overall, the research presented in the current thesis indicates that listening to self-identified sad music when feeling sad provides adults with a variety of functions. It also is shown that self-identified sad music can be selected by a variety of selection strategies. It is shown that in order to understand why people listen to certain music one should take into account personal and situational factors as these determine the specific goals and aims people have. Moreover, in order to understand why people listen to certain music one should also take into account what specific functions this music can provide.
Declaration

The ethical standards of the University of Limerick and the American Psychological Association (APA) were followed in the conduct of this PhD research.

This thesis is written in English and formatted according to the American Psychological Association (APA) style (6th edition) to conserve the original format of the included articles.

I declare that this thesis is my own original work. Any assistance or information I have received in developing the materials herein is duly acknowledged.

Limerick, April 30th, 2012, Annemieke J. M. Van den Tol
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Van den Tol, A. J. M. (Abstract) A Self-regulatory perspective on people’s decision to engage in listening to self selected sad music when feeling sad.

Conference Proceedings


LIST OF PUBLICATIONS AND PRESENTATIONS


# Table of Contents

- **Abstract**: I
- **Declaration**: II
- **Acknowledgements**: III
- **List of Publications and Presentations**: V
- **Table of Contents**: VII

## Chapter 1: Introduction
  - The Importance of Music Listening in Human Lives: 2
  - Understanding the Importance of Music Listening in Human Lives: 3
- The Aim of the Current Thesis: 3
  - Self-Identified Sad Music: 4
  - Importance of the Current Research: 5
- Overview of the Organisation of this PhD thesis: 6

## Chapter 2: Literature Review
- Chapter 2.1: Music Listening in Everyday Life: 17
  - Taste and Preference: 18
  - Everyday Music Listening and Situational Factors: 18
  - Everyday Music Listening and Dispositional Factors: 22
- Chapter 2.2: Affect: 25
  - Definitions: 25
  - Categorisation of Everyday Life Emotions: Dimensional Emotion Theory: 26
  - Categorisation of Everyday Life Emotions: Appraisal Theory: 28

## Chapter 3: Exploring a Rationale for Choosing to Listen to Sad Music When Feeling Sad: 8

## Chapter 4: Listening to Sad Music in Adverse Situations: Music Selection Strategies, Self-Regulatory Goals, and Listening Effect: 9

## Chapter 5: Listening to Happy and Sad Music: On the Role of Emotions and Appraisals in the Decision to Engage in Music Listening: 10

## Chapter 6: Discussion: 11

## References Chapter 1: 12

## Chapter 2: Literature Review: 16
TABLE OF CONTENTS

Happy and Sad Music: Expressed and Observed Emotions ........................................... 30
Music’s Emotions Perceived and Experienced ................................................................. 30
Emotions During Music Listening ..................................................................................... 32
Chapter 2.3: Self-regulation and Music ............................................................................. 34
Definitions ......................................................................................................................... 35
Self-Regulatory Music Listening ....................................................................................... 35
Affect-Regulation ............................................................................................................... 36
General Self-Regulatory Principles ................................................................................... 38
Coping Behaviour .............................................................................................................. 39
Self-Regulation and Music ............................................................................................... 42
Functions of Music ........................................................................................................... 43
Effects of Music Listening and Types of Music ................................................................. 45
Summary of this Literature Review ................................................................................... 47
References Chapter 2 .......................................................................................................... 49

Chapter 3: Exploring a Rationale for Choosing to Listen to Sad Music When Feeling Sad ............................................................................................................................ 65
Abstract ............................................................................................................................... 66
Introduction .......................................................................................................................... 67
Definitions ............................................................................................................................. 68
Mood- Enhancement and Music .......................................................................................... 69
Music and Self-Regulation Goals ....................................................................................... 70
Self-identified Sad Music Listening ................................................................................... 71
Methods ................................................................................................................................. 72
Exploring Why People Listen to Sad Music When Experiencing Emotional Distress ....... 72
Participants ........................................................................................................................... 74
Procedures ........................................................................................................................... 75
Data analysis ......................................................................................................................... 75
Results and Discussion ......................................................................................................... 77
Categories of Strategies ...................................................................................................... 77
Connection ........................................................................................................................... 77
Memory triggers ................................................................................................................... 79
High aesthetic value ............................................................................................................ 81
Message communicated ....................................................................................................... 82
More than one strategy ........................................................................................................ 83
Categories of Self-regulatory Functions ........................................................................... 83

VIII
TABLE OF CONTENTS

(Re-)experience affect ................................................................. 83
Cognitive .................................................................................... 85
Retrieving memories ................................................................. 87
Social ......................................................................................... 88
Friend ......................................................................................... 89
Distraction .................................................................................. 91
Mood- Enhancement .................................................................. 92
More than one function ............................................................ 94
Concluding Paragraphs on Categorization .................................. 95
Proposing a Model on Underlying Psychological Mechanisms for Self-regulation with Sad Music .................................................................................. 95
Description of the Model ............................................................ 96
Changes in Affective States and Emotional Response to Music ......................... 97
Utilitarian Paradigm ..................................................................... 99
Conclusion ..................................................................................... 99
Contributions, Limitations, and Future Directions ................................... 100
Acknowledgements ...................................................................... 102
References Chapter 3 ...................................................................... 103
Appendix Chapter 3 ....................................................................... 111
Chapter 4: Listening to Sad Music in Adverse Situations: Music Selection Strategies, Self-Regulatory Goals, and Listening Effects ............................................................ 117
Abstract ....................................................................................... 118
Introduction ................................................................................... 119
Definitions .................................................................................... 120
Motivations to Listen to Sad Music When Feeling Sad .............................. 121
Music and Affect Regulation .......................................................... 123
Music and Self-Regulation .............................................................. 124
Mechanisms Involved in Self-Regulation ......................................... 125
Self-Regulation and Mood-Enhancement in Everyday Life ..................... 126
The Next Step in Understanding Self-Regulatory Sad Music Listening ........ 127
Aim of the Current Research .......................................................... 128
Predictions ..................................................................................... 129
Structure of the Data ...................................................................... 129
Importance of Goals, Effects and Strategies ........................................ 130
Relations Between Strategies and Functions ....................................... 131
Relations Between Strategies, Functions and Mood-Enhancement ........... 133
### TABLE OF CONTENTS

Methods .......................................................................................................................... 135  
- Procedure and Measurements ........................................................................... 135  
- Participants .......................................................................................................... 137  
Analyses and Results ................................................................................................. 137  
- Structure of the Data ............................................................................................... 137  
- Importance of Goals, Effect and Strategies .......................................................... 140  
- Relations Between Strategies and Functions ......................................................... 141  
- Relations Between Strategies, Functions and Mood-Enhancement ...................... 142  
Discussion and Conclusions ....................................................................................... 144  
- Structure of the Data ............................................................................................... 144  
- Importance of Strategies and Functions ............................................................... 145  
- Relations Between Strategies and Functions ........................................................ 147  
- Relations Between Strategies, Functions and Mood-Enhancement ...................... 149  
Contributions ............................................................................................................ 150  
Limitations and Future Directions ............................................................................ 151  
Acknowledgments ....................................................................................................... 152  
References Chapter 4 .............................................................................................. 153  
Appendix Chapter 4 .................................................................................................. 163  

*Chapter 5: Listening to Happy and Sad Music: On the Roles of Emotions and Appraisal in the Decision to engage in Music Listening* ........................................................................... 182  
Abstract .................................................................................................................... 183  
Introduction .............................................................................................................. 184  
- Everyday Life Music Selection ............................................................................. 184  
- Music Portrays Emotions ..................................................................................... 185  
- Definitions ............................................................................................................. 185  
- Aim of this Study ................................................................................................... 185  
- Self-regulatory Goals and Happy Versus Sad Music Listening ................................ 186  
- The Circumplex Model ......................................................................................... 187  
- Mood Congruency .................................................................................................. 188  
- Beyond The Two Dimensional Categorization of Emotions ............................... 189  
- Behaviour and Coping ......................................................................................... 190  
- Hypotheses and Expectations .............................................................................. 191  
Methods ...................................................................................................................... 193  
- Design .................................................................................................................... 193  
- Procedure ............................................................................................................. 193  
- Participants .......................................................................................................... 194
# TABLE OF CONTENTS

Results .......................................................................................................................... 194
- Emotions and Mean Happy and Sad Music Preference ............................................. 194
- Differences Between Happy and Sad Music Preference for Each Emotion ............ 195
- Happy and Sad music Listening and Appraisals ...................................................... 197
Conclusions .................................................................................................................. 200
Discussion .................................................................................................................... 202
- Emotions and Motivation to Listen to Sad and Happy Music ............................... 202
- Emotions and Differences in Listening to Happy and Sad Music .......................... 202
- Appraisals and Music Listening Preference ......................................................... 203
  - Pleasantness ....................................................................................................... 203
  - Self vs. Other Control/ Responsibility ............................................................. 204
  - Certainty ............................................................................................................ 206
  - Attentional Activity .......................................................................................... 207
  - Anticipated Effort ............................................................................................. 208
  - Situational Control ........................................................................................... 209
  - Some Exceptions ............................................................................................... 210
  - Disgust .............................................................................................................. 210
  - Pride in Achievement ....................................................................................... 210
Contributions, Limitations, and Future Directions .................................................... 211
References Chapter 5 ................................................................................................. 213
Appendix Chapter 5 .................................................................................................... 221
Chapter 6: Discussion ................................................................................................ 227
Summary of Findings .................................................................................................. 228
  - Chapter 2: Literature Review ........................................................................... 228
  - Chapter 3: Exploring a Rationale for Choosing to Listen to Sad Music When
    Feeling Sad ........................................................................................................ 229
  - Chapter 4: Chapter 4: Listening to Sad Music in Adverse Situations: Music
    Selection Strategies, Self-Regulatory Goals, and Listening Effect ..................... 231
  - Chapter 5: On the Roles of Emotions and Appraisal in Relation to Happy and Sad
    Music Listening ................................................................................................ 232
Conclusions: Why do People Listen to Sad Music? .................................................... 234
Contributions and Implications ................................................................................ 236
  - New Perspective on On-going Debates .............................................................. 236
  - Music Induced Affective States ....................................................................... 236
  - Aesthetic or Utilitarian Emotions? .................................................................. 237
  - Practical Implications ....................................................................................... 237

XI
| Music Listening: Coping and Psychopathology ....................................................... 240 |
| Music Listening and Coping ....................................................................................... 242 |
| What Differentiates Listening to Sad Sounding Music From Other Music Listening? ................................................................. 242 |
| Happy and Sad Music Listening Different purposes ................................................... 245 |
| Understanding Misregulation with Sad Music ............................................................. 245 |
| Music Listening Behaviour and Emotions Perceived and Emotions Felt ................. 247 |
| Limitations and Implications on Future Research ................................................... 249 |
| Extending Research to Individual factors ................................................................. 250 |
| Extending Research to Other Sorts of Music ............................................................ 251 |
| Verification of Current Findings ................................................................................... 251 |
| References Chapter 6 ................................................................................................. 253 |
Chapter 1

Introduction
CHAPTER 1: INTRODUCTION

The Topic of the Current PhD Thesis

The Importance of Music Listening in Human Lives

Music listening plays a very important role in life. Humans have been engaged in the making of instrumental music for a very long time (Fitch, 2006). This conclusion was based on the findings of the oldest uncontested bone flutes which were a pair made from wing bones of a swan, dated to 36,800 ± 1000 years ago. Fitch (2006) argues that ‘It is also likely that a host of other instruments such as drums and rattles, that are ubiquitous today in all the world’s cultures but made of perishable materials, coexisted with or predated these preserved artefacts [...]’. As a rough figure, we can thus take 40,000 years as the minimum age of human music.’ It is understood that even our common ancestors the Neanderthals already engaged in musical activities including singing and playing instruments (Mithen, 2005).

According to recent findings from correlational survey research, music listening is a favourite way for people to pass time (Rentfrow & Gosling, 2003). Results of a study conducted among 300 adults showed that they reported to listen to music for an average of 3.66 hours per day (Lonsdale & North, 2011). Moreover results of a study among 60 University students with a mean age of 18 showed that the number one topic that people talk about when they are just getting to know each other is about music (Rentfrow & Gosling, 2006). Recent findings show that the average western person has 140 different music groups in his or her computer’s music library (Lambiotte & Ausloos, 2005). It can thus be asserted that music is an essential feature of our social and communal life.
CHAPTER 1: INTRODUCTION

Understanding the Importance of Music Listening in Human Lives

Humans have been interested in understanding the reasons why people make music for a very long time. Scholars dating back to [the time of] Confucius (551-479 BC), Plato (428 BC-348 BC) and Aristotle (350 BC) were already interested in explaining and understanding people’s engagement in music and the importance of music in human life. Plato for instance wrote that: “Music is a moral law. It gives soul to the universe, wings to the mind, flight to the imagination, a charm to sadness, and life to everything.” Whereas, Confucius (551-479 BC) wrote that; “Music produces a kind of pleasure which human nature cannot do without”.

The Aim of the Current Thesis

Recently, there has been growing interest in the psychological use and functions of music listening. It has been found that music listening in general can reduce self-injury and depression in adolescents receiving care in the mental health services (Plener, Sukale, Ludolph, & Stegemann, 2010). Many recent studies show evidence that the appeal of self defined and experimenter selected sad-sounding music increases when people are in a negative mood state or when feeling sad (Saarikallio & Erkkilä, 2007; Saarikallio, 2010; Schellenberg et al., 2008; Hunter, Schellenberg & Griffith, 2011). Sporadic evidence of major beneficial effects of sad music listening have been documented among people with exceptional life circumstances. Sad music listening interventions are used as a way to make contact with depressed patients (Bodner, Iancu, Gilboa, et al., 2007). Moreover, listening to sad music was reported to be useful by patients diagnosed with cancer. These patients indicated that listening to self-identified and self selected music with a sad sound could give meaning to and express their feelings and help them to better cope with their disease (Ahmandi, 2009).
As outlined in the previous paragraph, it can be argued that there are initial indications available from this body of research to suggest that listening to sad music may be beneficial in certain occasions. This topic provides the focus for this thesis which aims to investigate the psychological processes involved in people’s motivation to listen to self-selected and self-identified sad music when already feeling sad following adverse events. The self-reported effects that self-selected and self-identified sad music listening has on people is also explored. The main research question that guided this research was:

*Why do people sometimes listen to sad music when feeling sad?*

**Self-Identified Sad Music**

Before outlining the studies conducted as part of the current PhD thesis it has to be made clear that the sad music discussed in the current thesis is defined as sad from the perspective of the listener rather than adopting external criteria. Several scholars have investigated the characteristics of sad music (Gabrielsson & Lindström, 2001; Juslin & Laukka, 2004; Khalfa, Roy, Rainville, Dalla Bella, & Peretz, 2008), however there still exist a lot of debate on what sad music is. For example it is still unclear what role tempo plays in distinguishing happy and sad music (Khalfa, et al., 2008). Moreover findings from several studies show differences between people in the perception of sadness in music (Chamorro-Premuzic & Furnham, 2007; Lima & Castro, 2011; Punkanen, Eerola, & Erkkilä, 2010). The decision to focus on people’s experiences of sad music rather than defining this for them was motivated based on this partial incoherence in past definitions, as well as based on potential distorted perception. The sad music that will be discussed in this thesis is hence coined ‘self-identified sad music. Which means that the sort of sad music that is investigated in the current research is music that has been identified to sound sad from the perspective of the listener. Due to this decision, the self-identified and
self-selected sad music in the current research may in some aspects deviate from the prototypical sad music that researcher have identified and investigated in other research about sad music.

**Importance of the Current Research**

This research is important and novel for several reasons: Empirical research that focuses on understanding the psychological processes that guide music listening and empirical research on the effects of music listening is of high relevance for practitioners in mental and physical healthcare and especially relevant for music therapists. For example, studies among grieving adolescents who received music therapy found that music making can help with expressing feelings of sadness and grievance (Dalton & Krout, 2006; McFerran, 2010; Skewes, 2001). It has also already been shown that music listening is used as a way to cope with problems among adolescents (Saarikallio & Erkkilä, 2007). Moreover, clinical studies have shown that not being able to adequately cope with stressful life situations can contribute to developing a variety of clinical disorders (Cole, Michel, & O’Donnell-Teti, 1994; Kross, Davidson, Weber, & Ochsner, 2009). Therefore better understanding of a coping procedure such as music selection and listening will add value to the repertory of effective, low cost interventions that healthcare services can use with ease.

It is expected that knowledge about sad music listening behaviour among people when feeling sad is valuable for better understanding the dynamics of strategies that people can adopt in the pursuit of their well-being. Knowledge about the specific ways in which people use music will be important for furthering research in music psychology, music therapy, and clinical research. Music listening is an activity that is often used very successfully in music therapy settings (Grocke & Wigram, 2007; Plach, 1996). It is
expected that this and ongoing research can offer further information for music therapists and social health care workers to develop useful treatment methods for dealing with people’s sadness and negative moods. Additionally, any people who are intrigued by their reactions to music, and the potential benefits of their listening choices may find this research of interest.

In addition to this research being expected to be important for treatment in the long term, this research is also novel as there is still sparse empirical research conducted on this specific topic. Many scholars in the field of music psychology have pointed out the need for theoretical explanations and the need for psychological processes that may explain why people listen to music and what the effects are of listening to this music (Laukka, 2007). Several studies have already made an important contribution to investigating people’s psychological use of certain musical choices (DeNora, 1999; Saarikallio & Erkkilä, 2007; Van Goethem & Sloboda, 2011). However, notwithstanding the apparent and intriguing paradox that sad music is sometimes preferred over happy music when people feel sad (Saarikallio & Erkkilä, 2007; Saarikallio, 2010; Schellenberg et al., 2008; Hunter, Schellenberg, & Griffith, 2011) no research has specifically investigated people’s selection of self-identified sad music after experiencing adverse emotional events. Therefore the research presented here is intended to contribute to the current development of knowledge and spark ongoing research in music therapy, psychology, and clinical health science by looking at an emerging topic of interest that is both novel and important for further developing the field of music listening research.

**Overview of the Organisation of this PhD thesis**

The phenomenon of sad music listening was investigated from a multi-method empirical perspective (Creswell, et al., 2003; Tashakkori & Teddlie, 2002) through
CHAPTER 1: INTRODUCTION

conducting several studies with a mixture of qualitative and quantitative methods. One benefit of using a multi-method approach is that it provides more detailed in-depth results and converging perspectives (Johnson & Onwuegbuzie, 2004). For example, qualitative data can give an in-depth perspective on the important variables that play a role in the process of investigation, and quantitative research can be used more effectively for the investigation of relationships between variables (Creswell, et al., 2003).

The focus of Chapter 2 is on giving a broad overview on the topic of listening to self-selected sad music when feeling sad by discussing the recent and relevant literature. This study is called ‘Literature Review’. In Chapter 3, the results of an explorative empirical study on sad music listening in sad situations are reported. The empirical study that is discussed in chapter 3 is called ‘Exploring a rationale for choosing to listen to sad music when feeling sad’. Chapter 4 reports the findings of an empirical study in which the relations between self-regulatory functions of sad music listening, music selection strategies and mood-enhancement are investigated. This study is called ‘Listening to Sad Music in Adverse Situations: Music Selection Strategies, Self-regulatory Goals, and Listening Effects.’ In Chapter 5 which is called ‘Happy and Sad Music: On the Roles of Emotions and Appraisal in the Decision to Engage Music Listening’ people’s preference to listen to music that is self-identified to portrays sadness and music that is self-identified to portrays happiness are compared among different emotional states. These findings are then related to appraisal tendencies and explained in relation to coping strategies and self-regulation. Finally, Chapter 6 reflects on all findings and puts these in a broader perspective. In Chapter 6, future directions and limitations will additionally be discussed. Below follows a brief outline of each chapter. These outlines include a description of the methods and the aims of each study.
Chapter 2: Literature Review

Chapter 2 reports the findings of a literature search. This literature search served as an exploratory investigation for each empirical study and was meant to identify important issues in relation to the topics of investigation. Topics of investigation included ‘music listening in everyday life’, ‘affect and music’, and ‘self-regulation and music’. The literature search helped to put the findings of the empirical investigation in perspective with the already existing body of literature, and to compare the findings with past research, thus revealing where consistency and inconsistency existed. Moreover, this literature search helped with keeping up to date with recent developments in the field and integrating knowledge of the empirical findings with already existing literature. A broad overview is provided of recent literature on what is known about music-listening in everyday life (Chapter 2.1); then music listening and affect are discussed (Chapter 2.2); followed by a discussion of self-regulation in relation to music (Chapter 2.3).

Chapter 3: Exploring a Rationale for Choosing to Listen to Sad Music When Feeling Sad

This empirical study that was conducted to empirically explore the phenomenon of listening to self-selected sad music when feeling sad. No research has yet focused on investigating what relevant factors may potentially play a role in the decision to engage in listening to sad music when feeling sad or on the effects of this behaviour. As an initial investigating a qualitative study was conducted with a modified Grounded Theory Approach. This approach was chosen as a research method as Grounded Theory Approach is an inductive approach which serves as a good way for broadly exploring and answering research questions especially when there is little prior research available (Corbin & Strauss, 1990; Strauss & Corbin, 1990). Adults were asked to respond to an
online survey and self-report their experiences. These narratives were used to offer a window into participants’ personal view of their motivations for listening to self-identified sad music when feeling sad and also to find out more about their feelings and cognitions during and after listening. Responses were received from 65 adults across five countries. These responses were code and categorised in order to generate theory that can explain people’s sad music listening behaviour when feeling sad.

The entire approach of this study, as well as the findings and discussion of this research, will be discussed in Chapter 3. This research will be presented in the form of a manuscript that has been published in the peer reviewed journal ‘Psychology of Music’ under the name ‘Exploring a rationale for choosing to listen to sad music when feeling sad.’ (Van den Tol & Edwards, 2011).

Chapter 4: Listening to Sad Music in Adverse Situations: Music Selection Strategies, Self-regulatory Goals, and Listening Effects

This empirical study was conducted to examine the phenomenon of listening to self-selected sad music when feeling sad in more detail. The relations between music selection strategies and the functions of sad music were examined in more detail. In addition, it was investigated which strategies were most often used for the selection of sad music, which effects were most often experienced and which goals were most often pursued. It was additionally investigated through which functions mood-enhancement is usually achieved when listening to sad music when feeling sad, and if selection based on high aesthetic value can have a direct effect on mood-enhancement through music listening. The study adopted a quantitative approach. A total of 220 participants representing 22 countries were gathered on the internet via an online survey. Participants recalled an adverse emotional event after which they had listened to sad music and then
rated several statements in relation to their sad music listening. These statements were generated based on earlier insights on music listening and self-regulation.

The entire approach as well as the findings and discussion of this research will be discussed in Chapter 4. This research is presented in the form of a manuscript that is currently under review in one of the main journals in the field of music psychology.

Chapter 5: Listening to Happy and Sad Music: On the Roles of Emotions and Appraisal in the Decision to Engage Music Listening

This empirical study was aimed at providing a broader perspective on listening to self-selected sad music in relation to music listening in general, as well as on the use of music in relation to different emotional states. To examine a broader perspective on the specific value of listening to sad music this study also focussed on how happy and sad music listening behaviour varies as a function of emotional states. In addition, it was explored how appraisal tendencies related to music listening behaviour. It has been proposed that each emotion activates its own distinct cognitive predisposition to appraise future events in line with the central-appraisal dimensions that triggered the emotion (Smith & Elsworth, 1985). These cognitive predispositions result in emotion specific behaviour; called an appraisal tendency (Lerner & Keltner, 2000). Investigating music listening behaviour with a focus on the role of emotions and appraisal tendencies creates possibilities to create theory on music listening behaviour that relies on broader fields of psychology such as on research on coping, decision making, cognition and perception.

The data of this study was collected via survey method with questions generated based on the emotions that are often mentioned in emotion literature and literature on cognitive appraisals. The entire approach as well as the findings and discussion of this research will
be discussed in Chapter 5. This research is presented in the form of a manuscript that is currently under review in one of the main journals in the field of psychological research.

Chapter 6: Discussion

Chapter 6 provides an overview of all the important findings, and of the practical and theoretical implications of these findings. First, a brief outline is provided of the findings of the literature review and the findings of each empirical study. Then all findings will be integrated with each other to provide an answer to the main research questions that this thesis had focussed on. Then an overview is provided of the theoretical and practical contributions to the field and implications of the current findings. Finally, an overview will be provided of the limitations of the current findings and possibilities for future research based on the findings of the current thesis.
References Chapter 1


CHAPTER 1: INTRODUCTION


CHAPTER 1: INTRODUCTION


Chapter 2

*Literature Review*
This chapter provides an overview of the main topics of investigation of this thesis through a study of relevant and recent literature. A broad overview is provided on what is known about music-listening in everyday life (Chapter 2.1); then music listening and affect are discussed (Chapter 2.2), followed by a discussion of self-regulation in relation to music (Chapter 2.3).

Chapter 2.1: Music Listening in Everyday Life

A series of recent studies has tried to capture people’s music listening behaviour in every day life using an Experience Sampling Methodology (ESM). ESM is a research method in which people are asked to fill in several questionnaires over a period of time at random times every day (Hektner, Schmidt, & Csikszentmihalyi, 2006). Juslin, Liljeström, Västfjäll, Barradas, and Silva (2008), for example, conducted a study among 32 college students who carried a palmtop for 2 weeks. This palmtop emitted a sound signal seven times per day at random intervals at which participants completed a questionnaire. North and Hargreaves (2004) sent one text message to 346 participants each day during a period of 14 days. Results of these studies revealed that music was being played in some way as often as 37 to 39 percent of the time. Moreover, their findings showed that music is often listened to when alone at home, at the weekend, and in the evenings (Juslin et al., 2008, North, and Hargreaves, 2004, Sloboda, et al., 2001). Additionally, the findings supported the proposition that music listening usually accompanies some (non-musical) activity and is then chosen to enhance that activity (Juslin & Laukka, 2004; Juslin, Liljeström, Västfjäll, Barradas, & Silva, 2008; Sloboda, et al., 2009). These studies indicate the high prevalence of music listening in every day life, and the purposeful use of music to attain specified goals. Hence, these findings also
CHAPTER 2: LITERATURE REVIEW

indicate the important of conducting more research in relation to music listening behaviour, as music listening behaviour plays such an important role in the everyday life of people.

**Taste and Preference**

To understand music listening behaviour it is important to first understand several definitions relevant to music listening. Based on suggestions made by Abeles and Chung (1996) it is important to make the distinction between music *taste* - which is a relative stable value - and music *preference* - which is a short-term commitment - to understand the processes that occur prior to wanting to hear certain music. In other words, taste has an overall influence on music selection over longer time periods, whereas preference can predict music selection.

Several recent empirical studies show that making this distinction in definitions is indeed important for understanding music listening in everyday life. To be more specific, many recent studies show that people’s voluntarily music selection and what people want to hear at a certain moment is interrelated with people’s momentary needs and goals rather than with what people *generally* rate as good or favourite music (Saarikallio & Erkkilä, 2007; Schäfer & Sedlmeier, 2009a; Sloboda, et al., 2009; Lamont & Webb, 2009). In other words people’s needs and goals have an influence on their preference for certain music. Making this distinction between taste and preference will also be important in the current thesis for understanding why some people sometimes listen to sad music when they are feeling sad (Chapter 5).

**Everyday Music Listening and Situational Factors**

In a recent review about people’s music preference and daily activities (Sloboda, Lamont, & Greasley, 2009) the functions that music serve were investigated and it was
found that music preferences vary as a function of fit with the situation. In this overview it was reported that when people take public transportation, music is listened to for enjoyment, relaxation, and to mask unwanted noise and conversation. It was also reported that approximately two in three people who drive a car listen to recorded music or to the radio while driving (Dibben & Willimanson, 2007), with most of these people indicating that doing so helped them to relax and concentrate. Moreover, 80 percent of people reported listening to music during work, for an average of 36 percent of the time (Haake & Dibben, 2006). The main reasons for listening to music during work are to increase perceived concentration on work, to focus, and to avoid unwanted thoughts. During private study and private work people also listened to music, and listeners indicated that listening contributes to their performance by improving concentration and focus, to block out unwanted noise, to help reduce stress, and to relieve boredom (Haake & Dibben, 2006). During body work, such as when exercising in the gym, fast music is chosen to stay motivated during high intensity exercise (Karagreorghis, Jones, & Low, 2006; Priest & Karagreorghis, 2008; Tenenbaum et al., 2003). Music listening is reported to also have a positive effect on pain relief among people experiencing chronic pain (Roy, Lebuis, Peretz, & Rainville, 2011). Some people with chronic pain are reported to experience higher levels of perceived control over their pain and lower levels of reported pain, depression, and disability when listening to music (Roy, Lebuis, Peretz, & Rainville, 2011). During everyday activities such as washing, cooking, and gardening, music listening is used for emotional and physical enhancements as well as to reduce boredom and enhancing feelings of meaningfulness (DeNora, 1999).

As part of the above mentioned review (Sloboda, et al., 2009) it became apparent that people often choose the music themselves or actively sought out the music exposure,
as opposed to the music being played to them. Moreover, the reasons for listening to music and its effects vary across situations, indicating that people fit their music selection to their goals (Sloboda, et al., 2009). These findings are broadly in line with the uses of gratification theory, which is a theory on media uses that proposes that there are many reasons for media use and people do use the media according to their own personal goals and needs (Blumler & Katz, 1974). Moreover, these findings indicate the importance of the research conducted for the current thesis by showing that situational factors do hugely impact on everyday music selection.

One factor that influences preference for music is the listener’s affective experiences accompanied by the music (Finnäs, 1989; Hallam, Cross, & Thaut, 2009; Juslin, Liljeström, Västfjäll, Barradas, & Silva, 2008; Ladinig & Schellenberg, 2011). It has been shown that momentarily liking of music relates positively to the strength of the listener’s emotional response (Ladinig & Schellenberg, 2011). Moreover, past affective experiences (e.g. memories evoked by music) also have an influence on listeners’ preference for music (Finnäs, 1989; Juslin, Liljeström, Västfjäll, Barradas, & Silva, 2008). Another interesting finding is that momentarily liking of live music is more strongly determined by listeners’ emotional engagement in the concert than by the quality of the performance (Hallam, Cross, & Thaut, 2008). In other words, people seem to like music that evokes strong emotional responses and strong emotional involvement in music listening predicts liking.

Several other characteristics of music also play an important role for people in general in the liking of certain music. Especially familiarity and complexity of the piece of music and music’s style have often been linked to how much people like music (Finnäs, 1989; North & Hargreaves, 1995; Hallam, Cross, & Thaut, 2008; Kim, 2011;
CHAPTER 2: LITERATURE REVIEW

Ladinig, & Schellenberg, 2011). For example, when investigating people’s reaction to new age music selected by the researchers, North and Hargreaves (1995) found a positive linear relationship between familiarity and liking. These results seem to be stable depending on whether people are in either a happy or a sad mood. This was found in a study for which people were either induced with a happy or a sad mood, and in which no differences were found in relation to liking of familiar or unfamiliar music as a function of mood (Kim, 2011). North and Hargreaves (1995) additionally found a negative quadratic relationship between complexity and liking when investigating people’s reaction to new age music. Similarly when measuring tendencies to approach a university stand, moderately complex music results in more people approaching this stand, in comparison to when the music’s complexity is high or low (Berlyne, 1971). These results were explained by people’s preference to be in an affective state of moderate arousal (Berlyne, 1971). Moreover, in an experiment it was found that ‘type of music’ is more important for predicting liking then the ‘specific song’ that is played (Hallam, Cross, & Thaut, 2008).

Preferences and tastes for music can also be influenced by social environments. People tend to often like music that is liked by people who are close friends, and show preference for hearing music that is liked by people in the same room (Juslin, Liljeström, Västfjäll, Barradas, & Silva, 2008). It has been found that people typically describe themselves as being closer to listeners of music they like compared to listeners of music they dislike (Tekman, 2009). People also attribute more positive qualities and give larger rewards to fans of music they like in comparison to fans of music they dislike (Lonsdale & North, 2009; Tarrant, North, & Hargreaves, 2001). In sum, people seem to believe that their music taste provides important information about who they are.
Everyday Music Listening and Dispositional Factors

Preference and taste for music do not only vary based on situational factors, but relationships have also been found with dispositional factors (Chamorro-Premuzic & Furnham, 2007; Rentfrow & Gosling, 2003; Schäfer & Sedlmeier, 2009a; Vuoskoski & Eerola, 2011). One notable study that focused on listening to sad music (Garrido & Schubert, 2011) indicated that 30 out of the 59 participants who had participated enjoyed negative emotions in music. The extent to which they enjoyed or listened to sad music or to which they experienced sadness as a reaction to listening was related to personality traits. Enjoyment of sad emotions in music was higher among people who had a strong tendency towards the personality trait ‘absorption’ - which is ‘an experience of daily life, much like daydreaming, in which attention becomes deeply focused and narrowed, and there is a lessening of awareness of internal states or external conditions as a result’ (Garrido & Schubert, 2011, p 281) - in combination with the trait ‘music empathy’ - which is ‘a mirroring of emotion, and the development of parallel and reactive emotions in response to those perceived in the music’. (Garrido & Schubert, 2011, p 282). It was additionally found that people who had strong tendencies towards the personality trait ‘absorption’ with an ‘attention bias towards negative stimuli’ would experience sadness in response to sad music and may exhibit an attraction to listening to sad music but may not necessarily like sad music. People who score high on ‘music empathy’ but not on ‘absorption’ or people who tend to ruminate a lot were described in this study as having a tendency to avoiding sad music because listening to sad music may make them feel unpleasantly sad (Garrido & Schubert, 2011). In sum, it seems that taste for music that portrays sad emotions can be related to personality traits.
In order to investigate the influence of personality on music taste and felt emotions, Ladinig & Schellenberg (2011) conducted an experiment in which they let participants listen to different excerpts of unfamiliar happy and sad music and then measured the effects of felt emotions and the extent to which people liked their experience. People low on ‘extraversion’ or high on ‘openness to experience’ tended to like music excerpts that made them feel sad to a greater extent. They additionally found that the personality trait of ‘agreeableness’ related positively to having more intense emotional responses to music in general, whereas both the personality traits ‘agreeableness’ and ‘neuroticism’ related to having stronger sad feelings when listening to the sad music excerpts.

Another study that related musical taste to dispositional facts was conducted by Rentfrow and Gosling (2003). As part of this study, people had to rate their preference for a huge variety of styles of music that were provided in a list and additionally had to rate several questions in relation to personality traits. As a results of a factor analysis it was found that music tastes can be divided into four main taste groups: reflective and complex (classical, jazz, blues, folk), intense and rebellious (alternative, rock, heavy-metal), upbeat and conventional (country, pop, religious), and energetic and rhythmic (rap/ hip-hop, soul/ funk, electronic/ dance). Correlations were found in relation to preference for music of these taste groups and personality characteristics, wealth, being athletic, political preference, and even self-described intelligence. In particular, it was found that Reflexive and complex music taste related positively to; openness, interpersonal dominance, political liberalism and viewing the self as intelligent, but related negatively to; social dominance, and viewing the self as athletic. Intense and rebellious music taste related positively to; openness, viewing the self as athletic, and viewing the self as
intelligent. *Upbeat and conventional* music taste related positively to; extraversion, agreeableness, conscientiousness, political conservatism, self-rated physical attractiveness, and perceiving oneself as athletic, but related negatively to; openness, social dominance, depression, and political liberalism. *Energetic and rhythmic* music taste related positively to; extraversion, agreeableness, political liberalism, self-rated physical attractiveness, and perceiving oneself as athletic, but related negatively to social dominance and political conservatism (Rentfrow & Gosling, 2003).

In addition to the findings that are outlined above, music preferences and tastes have also been associated with physiological characteristics (McNamara & Ballard, 1999), gender (Brebner, 2003; Gibson, Aust, Hoffman, & Zillman, 1995; Knobloch-Westerwick, 2009; Schwartz & Foutz, 2003; Thompson, 1990), auditory preferences for music characteristics (McDermott & Hauser, 2005; Schäfer & Sedlmeier, 2009a; Trehub, Schellenberg, & Hill, 1997; Umemoto, 1997) and age (Holbrook & Schindler, 1989; Saarikallio, 2010; Schwartz & Foutz, 2003; Thompson, 1990).

No significant differences have been found in relation to income and attendance of live concerts (Sloboda, Lamont, & Greasley, 2009; Hallam, Cross, & Thaut, 2008). Across all income groups it has been found that 36 to 39 percent of people attend live concerts each year. There is however a relation with type of music concerts visited and income. It has been found that classical music concerts are typically visited by people with high income whereas people with lower income and middle incomes more often attend folk concerts instead (Sloboda, Lamont, & Greasley, 2009; Hallam, Cross, & Thaut, 2008).

Overall these studies indicate that in order to understand music listening behaviour it is important to make a distinction in music preference and music taste. Music
preference has been identified to be dependent on situational factors such as on the activities that people are engaged in, social environments and on the emotions that people experienced at a certain moment. Music taste has been identified to be related to personality factors and physiological characteristics.

Chapter 2.2: Affect

The main research aim of this thesis is to gain a better understanding of why people listen to sad music when they are already feeling sad. In the upcoming paragraphs the leading theories on affective experiences in relation to music as well as the leading theories in relation to the categorization of everyday life emotions will be discussed.

Definitions

In the following paragraphs several definitions will be used: The word affect refers to feeling states and is generally used as an overarching term for the terms emotion and mood (Gross, 2007; Larsen, 2000). The word emotion is used to refer to psychological experiences that are often accompanied by physiological processes and expressions and are considered to reflect environmental states and cognitive appraisals that tend to have a clear focus (Gross, 2007; Larsen, 2000). It is believed that emotions guide judgements and enable people to deal quickly with encountered problems or opportunities (Frijda, 1986; Levenson, 1994; Oatley & Johnson-Laird, 1996). In comparison to emotions, moods are lower in intensity but usually last longer and tend to be more unfocussed and not clearly directed towards dealing with problems (Gross, 2007; Larsen, 2000).

Categorisation of Every Day Life Emotions: Dimensional Emotion Theory

An established model in relation to everyday life affect is the two dimensional model with valence and arousal on both axes, called the circumplex model by Russell
CHAPTER 2: LITERATURE REVIEW

(1980), inspired by his predecessor William Wundt (1912/1924). High arousal is described as being alert, awake, vigilant, and highly reactive to stimuli, whereas low arousal is described as being inactive, sleepy, and not alert. Valence refers to the intrinsic attractiveness or/and pleasantness assigned to an object, event, situation, goal, stimuli, emotion, or an affective state (Barrett and Russell, 1998; Frijda, 1986; Russell, 1980; Russell & Carroll, 1999). Although positive and negative valence may seem opposites, they are commonly treated as relatively independent as they are associated with distinct psychological processes (Russell & Carroll, 1999) and different areas in the brain (Ahern & Schwarts, 1985). The results of numerous studies on the circumplex model show that sadness typically involves negative valence and average to low levels of arousal in comparison to other emotions, whereas happiness typically involves positive valence and average to high levels of arousal in comparison to other emotions (e.g. Barrett and Russell, 1998; Russell, 1980; Russell & Carroll, 1999).

Categorisation of Everyday Life Emotions: Appraisal Theory

Another line of research has focused on categorizing emotions by investigating appraisals, which are the evaluations of circumstances that cause emotions (Lazarus, 1966, 1991). It has been argued that each emotion activates a cognitive predisposition to appraise future events in line with the central-appraisal dimensions that triggered the emotions, and that each emotion activates a cognitive predisposition to also act on these appraisals; this tendency is called an appraisal tendency (Lerner & Keltner, 2000).

In the classic work by Smith and Elsworth (1985) an overview was made of appraisal features that distinguish emotions from each other. A set of six orthogonal dimensions were identified that could be used to categorize emotions based on their underlying appraisals. These dimensions are: Pleasantness, the degree to which one
evaluates the current affective state to be pleasant or unpleasant; Responsibility Control, the extent to which someone or something other than oneself seems to have been responsible for causing an emotions or is in control of a situation that caused the emotion; Certainty, the extent to which one feels able to predict, control and understand a situation in which an emotion occurs or the extent to which this is not the case; Attentional Activity, the extent to which something draws one’s attention or repels one’s attention; Anticipated Effort, the extent to which physical or mental activity are expected to be needed or not needed when an emotion is experienced; and Situational Control, the extent to which the event that causes an emotion seems to be caused by individual agency or situational agency.

Based on findings by Smith and Elsworth (1985) sadness involves appraisals of unpleasantness, being low on responsibility-control (indicating that others are seen as more responsible for creating the situation than the self, average on certainty), being average to low on attention, and being high on situational control (indicating that the situation is appraised as being more in control than the self). Happiness involves appraisals of pleasantness, being high on certainty, being average to high on attention, being average to low on situational control (indicating that the self is seen as more in control than the situation) and being average to high on responsibility-control (indicating that the self is seen as more responsible for creating the situation than others) (Smith & Elsworth, 1985).

In sum, emotions can be differentiated by the extent to which they reflect high or low arousal and valence and on their underlying appraisals. Hence, it can be important to understand what role the valence and arousal and appraisals of people’s affective state play in their decisions to listen to music. Understanding the roles of appraisals in music
selection may contribute to the knowledge on what psychological roles music can play in specific situations. Such knowledge can hugely contribute to the understanding that social healthcare workers have on the functions of human behaviour.

Happy and Sad Music: Expressed and Observed Emotions

When asked to indicate the emotions portrayed by music, a variety of different studies has indicated that people are very well able to tell which emotions are expressed and portrayed by music. This was found in a series of different experimental studies for which people had to evaluate film music (Bezdek & Gerrig, 2008), monophonic music which was composed by musicians and played by a computer programme (Thompsons & Robitaille, 1992), emotions expressed by opera singers (Kotlyar & Morozov, 1976), live music played by a music therapist (Bunt & Pavlicevic, 2001), and in an experiment in which Canadian students identified the emotions expressed in Hindustani music (Balkwil & Thompson, 1999). Moreover, as the results of three overview studies it was concluded that the expressions of ‘happiness’ and ‘sadness’ are more accurately attributed to music than any other emotion (Haack, 1980; Kreutz, 2002; Lindström et al., 2002).

Gabrielsson and Lindström (2001) concluded that emotions elicited by music stem from both the music structure, such as tempo, mode, sequence of tone use, instrument choice, dynamics, volume, and the interpretation of the specific music performer. For example, it has been found that music with a slow pace, low sound level, and minor chords does often elicit more sadness than music with a fast tempo, high sound level and major chords, which are believed to be characteristics of happy music (Gabrielsson & Lindström, 2001; Juslin & Laukka, 2004; Khalfa, et al., 2008). Performers typically use different techniques to convey emotions while playing. Happy emotions are typically expressed by staccato articulation and louder intensities, whereas
sadness is expressed by soft, dynamics, legato articulation, and soft tempo (Juslin, 2000; Patel, 2008). A recent computational study for which people had to listen to music selected by the researchers also showed that emotions portrayed by music were interpreted more accurately by listeners when lyrics were accompanied with the music, but only when the music portrayed emotions that can be categorized as negatively valence (Hu et al., 2010). Recent research shows that lyrics may also influence the experience of emotions during music listening. It was found that sad lyrics bolstered the experience of sad emotions that were inherent in the melody of the music. Happy lyrics did, however, suppress the happiness that was inherent in the melody of the music. It was, however, noted that these effects may or may not have been due to the music stimuli that the researchers had selected in the specific studies. It was therefore argued that more research should be conducted to further investigate the effects of lyrics on emotional experiences as a result of music listening (Ali & Peynircioglu, 2006).

The extent to which people perceive music to portray happiness or sadness is partially based on idiosyncratic features including dispositional factors, such as age (Lima & Castro, 2011), depression levels (Punkanen, Eerola, & Erkkilä, 2010) attachment styles, social connectedness, and nostalgia proneness (Van den Tol & Vingerhoets, 2009). Therefore, listening to the same music piece can cause slightly different emotional experiences across different situations and listeners. Nonetheless, the results of a review study (Juslin & Laukka, 2004) show that even though small differences exist in the perception of emotions in music, the general perception of emotions is robust, especially for happy and sad music.
CHAPTER 2: LITERATURE REVIEW

Music’s Emotions Perceived and Experienced

There is a growing interest in investigating the difference between perceived and experienced emotions when listening to music (Gabrielsson, 2002; Kallinen & Ravaja, 2006; Salimpoor, et al., 2009; Zetner, Grandjean, & Scherer, 2008). Research in relation to emotions perceived and felt when listening to music is very important for understandings what psychological functions music can serve. Below a brief review is provided on the fields of expressed emotions in music, perceived emotions in music, experienced emotions when listening to music and on combinations of these fields.

A series of recent studies has shown that the circumplex model can be used to interpret and categorize stimuli that portray emotions, such as music (Bigand, et al., 2005; Husain, Thompson, & Schellenberg, 2002; Thompson, Schellenberg, & Husain, 2001; Vieillard, et al., 2008). It has been shown that music can not only be perceived in relation to the circumplex model, but that listening to music can also result in changes in arousal and valence levels (Bigand et al., 2005; Husain, Thompson & Schellenberg, 2002; Hunter, Schellenberg, & Schimmack, 2008, 2010; North and Hargreaves, 1997; Thompson et al., 2001).

Several studies that used the circumplex model in their research have indicated a relation between experienced and expressed emotions on both axes. When people are asked to organize a variety of musical excerpts selected by a researcher that are indicated to portray emotions, outcomes reveal a dimensional organization on valence and arousal that is largely similar to the emotions experienced while listening to this music to the emotions the portrayed by the music (Bigand et al., 2005; North & Hargreaves, 1997). Moreover, researcher selected music that is rated to portray happiness is usually also rated to be more pleasant to listen to than music that portrays sadness (Hunter, et al.,
2008, 2010; Thompson et al., 2001). However, findings on music listening on the valence axes of the circumplex model are not entirely in line with findings on emotions research in everyday life. Specifically, people find sad emotions *perceived* in music to be slightly more pleasant or ‘positively valenced’ than sad emotions in everyday life (Bigand, et al., 2005; Blood & Zatorre, 2001; Hunter et al., 2008, 2010). This is in line with other studies that indicate that even though strong overlap has been found in relation to perceived and experienced emotions when listening to music, people *experience* more positive emotions when listening to music than they *perceive* to hear being expressed (Kallinen & Ravaja, 2006).

Another interesting finding in relation to the circumplex model and music listening is that people show a preference for listening to music that is similar on arousal and valence with the arousal and valence of one’s own mood (Vuoskoski & Eerola, 2011). This was found as the result of an experiment carried out among 67 participants who evaluated 50 music excerpts that were selected by the researcher in terms of perceived emotions (anger, fear, happiness, sadness, and tenderness).

In a recent overview Juslin and Västfjäll (2008) argue that listeners can identify what kind of affect is portrayed by the music, that music can portray affect, and that the transferring of affective experience of music to listeners can be explained by a variety of different physical and physiological pathways. Juslin and Västfjäll (2008) suggested that six psychological mechanisms may explain most emotions induced by music in everyday life: *brain stem reflexes*, which refers to when ‘fundamental acoustical characteristics of the music are taken by the brain stem to signal a potentially important and urgent event.’ (p. 364); *evaluative conditioning*, which refers to music that ‘has been paired repeatedly with other positive or negative stimuli.’ (p. 364); *emotional contagion*, which refers to
CHAPTER 2: LITERATURE REVIEW

when ‘the listener perceives the emotional expression of the music, and then “mimics” this expression internally, which by means of either peripheral feedback from muscles, or a more direct activation of the relevant emotional representations in the brain’ (p. 365); 

visual imagery, which refers to when a listener experiences emotions ‘because he or she conjures up visual images (e.g., of a beautiful landscape) while listening to the music.

The emotions experienced are the result of a close interaction between the music and the images.’ (p. 366); episodic memory, which refers to when ‘music evokes a memory of a particular event in the listener’ and therefore results in experiencing emotions (p. 367); and finally also musical expectancy, which refers to when ‘a specific feature of the music violates, delays, or confirms the listener’s expectations about the continuation of the music.’ and therefore results in experiencing emotions (p. 368). Although the literature review made by Juslin and Västfjäll (2008) was very extensive, as a result of the research conducted by this PhD thesis it has to be argued that music listening can also convey emotions and change affective state through indirect psychological processes (Chapter 4: Chapter 5; Van den Tol & Edwards, 2011).

Emotions During Music Listening

Several studies have focussed on investigating listeners’ affective response to music listening. Recently the extent to which people experienced everyday life emotions in relation to music was investigated in a survey study among 141 participants (Juslin & Laukka, 2004). These participants reported that they most frequently feel, happiness, relaxation, nostalgia, calm, pleasure, love, sadness, and longing during music listening. There was no difference found between any particular musical style and the level of intensity of emotions experienced. Moreover, these participants reported that they experienced emotions for 55 percent of the time they listened to music. These results are
broadly in line with the results from a study by North and Hargreaves (2004) in which participants reported that music affected how they felt in 64 percent of music listening episodes.

Zentner, Grandjean & Scherer (2008) conducted a study on the emotions experienced during music listening. They conducted this research with a focus on catching emotional experiences that are not commonly mentioned in relation to non-music everyday life emotional experiences. They concluded that emotional experiences as a result of music listening can be divided into 10 factors, which are: Tender-longing, amazement, tranquillity, joy, activation, power, sensuality, transcendence, dysphorya and sadness. The results of their study showed that people also actively listen to music to self-induce the following emotions: Joyful activation (happy/ excited), sadness (sad/ depressed), tension (stressed/ tense), power (energetic), peacefulness (calm/ relaxed) and nostalgia (thoughtful/ melancholic/ nostalgic) (Zentner, Grandjean & Scherer, 2008). These findings are in line with many other studies in which it has been found that happiness and sadness are generally found to be the two emotions that are easiest to be expressed through music, to be recognized in music and to induce in listeners (Gabrielsson & Juslin, 1996; Krumhansl, 1997; Thoma, et al., 2011).

Juslin, Liljeström, Västfjäll, Barradas, and Silva, (2008) conducted a study in a real-life setting among 32 college students in which they compared how often people experienced a set of emotions during music listening and in everyday life. The results of this study showed that happiness-elation and nostalgia-longing were more frequently experienced in episodes with music, whereas anger-irritation, boredom-indifference, and anxiety-fear were more frequent in episodes with no music. It was also found that
personality characteristics and situational characteristics including presence of others had an influence on which emotions people experienced during listening.

Some scholars believe that the affective experiences that people have during listening to music cannot be considered normal emotional experiences. One opinion on this topic stems from a paper by Scherer (2004) in which it is suggested that emotions caused by music are generally not the result of cognitive appraisal and should therefore be called aesthetic emotions. Kivy (1990) goes even further and claims that emotions caused by music are not ‘real’. In the discussion chapter of the current thesis a reflection will be given on this argument in relation to sad music.

In sum, there is already a lot known about music and affect. Many features of the music contribute to the expression of affect. Moreover, people are able to perceive the emotions that are intended to be portrayed by a certain piece of music and several psychological and physical factors play a role in this. Additionally, people also often feel these emotions while listening. The findings that music can portray emotions that a listener can perceive are robust across situations and people. Music induces people with a specific set of affective states - whereas some of these affective states occur more often during music listening than during no music listening.

Chapter 2.3: Self-regulation and Music

The main research question of this PhD thesis involves trying to understand why people listen to sad music when they already feel sad. It is hence important to examine the literature on regulation of states associated with the self and people’s experiences of affect-regulation in particular.
Definitions

In the following paragraphs several key terms will be used: People’s active conscious or unconscious use of goal-directed activities, such as listening to music for modulation of affect, thoughts, attention or behaviour, is commonly referred to in psychology with the general term regulation (Gross, 2001, 2007; Karoly, 1993). People’s active conscious or unconscious use of tools and goal-directed activities for self and affect-regulatory purposes is commonly referred to with the term strategies (Karoly, 1993). The term self-regulation refers to regulation of all psychological processes related to the self and the term affect-regulation refers to the processes by which affect is regulated (Karoly, 1993; Gross, 2001, 2007). More specifically, Vohs and Baumeister (2004) stated that self-regulation “encompasses any efforts by the human self to alter any of its own inner states or responses” (p. 2). Affect-regulation can be considered to reflect a specific form of self-regulation.

Self-Regulatory Music Listening

Music listening plays an important role in everyday life for self-regulation and the regulation of affect. For example, in a recent study it was found that music listening is most often used as a tool for regulating affect after talking to friends (Van Goethem, 2010; Van Goethem & Sloboda, 2011). Moreover, participants in this study had reported that they consciously tried to regulate their affect in over 50 percent of music listening episodes and that almost half of the other episodes had influenced how they felt. More specifically, when people had to rate the most effective ways through which they regulated affect and cognitions it was found that among a variety of options (specific time alone, engage in memories, think about future events, eat, reading a book or magazine, and watch TV or film) music listening was most often used. Moreover, music listening
was rated as most often used in comparison to all others options when trying to distract, disengage, vent, feel pleasant, reduce tension, cope, suppression and denial. In addition, relaxation, distraction, and active coping were more often used for affect regulatory goals in comparison to the strategies of introspection and venting (Van Goethem, 2010; Van Goethem & Sloboda, 2011).

A recent study by Lonsdale and North (2011), in which leisure activities were compared on the functions they served, shows similar results. It was found that music listening was most often used of all other leisure activities (reading a book or newspaper, sport activity, watching films, watching television, and playing computer games) to optimize and create positive moods and to alleviate negative moods. In comparison to music, it was found that newspapers or magazines, television, films, were used more often to manage personal relationships. In sum, music listening plays an important role in affect regulation but somewhat less important in the regulation of social relationships.

**Affect-Regulation**

Two lines of theorizing can be distinguished in literature on self and affect-regulation. One focuses mainly on affect-regulation and the other focuses on general self-regulatory principles. In what comes next, first the line of research will be discussed that primarily focuses on affect-regulation.

Most of the important affect regulatory research has been conducted in the previous 20 years. However, the following quote suggests that even over 100 years ago people were already aware of some of the processes that are involved in affect-regulation:

*Action seems to follow feeling, but really action and feeling go together; and by regulating the action, which is under the more direct control of the will, we can indirectly regulate the feeling, which is not.* William James (1899, p.500)
According to research on affect regulation there are 5 different types of affect-regulation that people can potentially engage in. The first type of affect-regulation is called *situation selection*, which reflects the moment when someone decides whether or not to engage in a situation. During this process affect-regulation occurs because a person has the opportunity to avoid or engage in a situation. The second type of affect-regulation is called *situation modification*. This type of affect-regulation occurs when a situation is perceived to be unpleasant. At that moment a person has the opportunity to decide to try to change a situation or not. Whether or not someone decides to do so will have an effect on the experienced affect. The third type of affect-regulation is *attentional deployment*, which occurs when a situation is actually experienced as something bad and a person did not decide to change or avoid the situation at an earlier moment or did not have the opportunity to avoid or change the situation. At that moment people will have the opportunity to cognitively change what they are thinking about a situation or reinterpret a situation, which subsequently also changes how they ‘feel’. Finally the last type of affect-regulation that was recognized (Gross, 1998, 2001, 2007) is labelled *response modulation*, which occurs when someone has a feeling about a situation but still has the decision to actively try to avoid the emotion from happening or showing. Again affect-regulation happens when making this choice.

Gross (1998) also identified and modelled many specific strategies that are used in specific affect regulatory situations. As most of these strategies are not directly relevant to the current PhD research it is decided not to include all of these in the present review. However, one of these strategies is very relevant to the current thesis in order to explain people’s motivations to listen to sad music when already feeling sad. This strategy occurs during attentional deployment and is called *cognitive reappraisal* which refers to the
process of actively changing ones negative thought about a negative situation in order to feel better about the situation (Gross, 2001).

**General Self-Regulatory Principles**

Self-regulation research focuses on the general principles of regulatory behaviour. According to this line of literature successful self-regulation is said to require a repeated monitoring and evaluation of a perceived value such as the current state, against internal reference standards which represent how things should be, such as against, goals, desires, and ideal states (Baumeister & Heatherton, 1996; Baumeister & Vohs, 2004). Self-regulation may occur both consciously and unconsciously (Baumeister & Vohs, 2004).

The process of self-regulation is often explained as being a psychological ‘feedback loop’ which is a constant process that informs the self about discrepancies between perceived values and internal reference standards (Carver, 2004). During these psychological loops discrepancies may be observed. These discrepancies may either trigger a response aimed at reducing or at avoiding the difference between the current state and the internal reference. As discussed by Carver (2004), three main self-regulatory responses can be distinguished when a discrepancy exists between perceptions of a current state’s relative and internal reference: people may either try to reduce the discrepancy by altering the current state, people may try to reduce the discrepancy by altering the internal reference, or people avoid the discrepancy and decide that the internal reference is undesirable and hence increase the discrepancy.

People sometimes have to manage overriding a response set with an alternative incompatible set in order to achieve their goals (Baumeister & Heatherton, 1996). An example of this is when someone needs to go to sleep early to be fit for an early morning exam, rather than giving in to the tempting alternative of going to the pub with friends for
a late night drink. It is argued that self-regulation strength or willpower is needed to override such impulses in favour of long term outcomes. Self-regulation may fail because of under-regulation or misregulation (Baumeister & Heatherton, 1996; Carver & Scheier, 1981). Under-regulation refers to failures to exert control and occurs when the individual does not possess adequate strength or willpower to control their impulses, such as when a person wants to diet but does not have the willpower to say no to a big dessert. Under regulation is related to behaviour in which willpower is especially important, such as when trying to start a new diet or when trying to stop a bad habit (Baumeister & Heatherton, 1996; Carver & Scheier, 1981). Misregulation refers to using an ineffective strategy to achieve one’s goals or control unwanted impulses. Misregulation occurs because people may have false assumptions about effective strategies or because people may misdirected effort (Baumeister & Heatherton, 1996). For example, someone may falsely believe that not studying hard before an exam will result in feeling more relaxed during the exam and help one to get higher grades (goal). When in this example one fails the exam then one can speak of misregulation. Misregulation will be shown to be relevant in relation to people’s decision to engage in listening to self selected sad music (Chapter 3; Van den Tol & Edwards, 2011).

Coping Behaviour

It has been argued that the ability to adaptively cope with distressing life experiences is a key self-regulatory challenge, and failing to meet this challenge can be costly (Kross, Davidson, Weber, & Ochsner, 2009). Coping can be defined as the “cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus & Folkman, 1984, p. 141). Coping can be distinguished from affect and self-regulation as it
CHAPTER 2: LITERATURE REVIEW

is primarily concerned with people’s responses to adverse emotional events and stressful situations (Lazarus & Folkman, 1984). Lazarus and Folkman (1980, 1984) have been important pioneers in the investigation of coping responses. Their research indicates several coping strategies, of which two are used most widely. People often use either a problem-solving coping strategy, which means doing something active to solve the problem and alleviate stressful circumstances, or an emotion-focused coping strategy, which means regulating the emotional consequences of a situation (Carver & Scheir, 1999; Folkman & Lazarus, 1980). In addition to these strategies, several other strategies have also been identified, such as an avoidant coping strategy, which means avoiding a problem and rather focusing on something else (Carver & Scheir, 1999), and an acceptance coping strategy, which means focusing on one’s situation and thoughts and emotions but not trying to change anything but rather accept things (Carver & Scheir, 1999).

The extent to which a certain coping strategy is constructive and good for people’s psychological health is for a large degree depending on the characteristics of the situation (Holahan & Moos, 1987). For example, if a situation is viewed as changeable, then a problem solving coping strategy is most preferable (Holahan & Moos, 1987). However, if a situation is perceived as bad and unchangeable an emotion focused coping strategy is more preferable (Brannon & Fiest, 2007; Holahan & Moos, 1987). Brannon and Fiest, (2007) explained this as that when a situation is unchangeable then people will experience stress but no opportunity to solve the problem, in such a situation an emotion focused coping strategy can be used in order to feel better.

Having adequate coping strategies to deal with challenges is important. Several clinical studies have shown that not being able to adequately cope with stressful and
emotional life situations can contribute to developing a variety of clinical disorders (Johnson-Laird, Mancini & Gangemi, 2006; Kross, Davidson, Weber, & Ochsner, 2009). Moreover, inadequate coping is also often present in clinical disorders. For example, active or problem solving coping seems to occur more often among people with high self-esteem, and avoidant coping is more frequently used among people who experience more anxiety (Scheurs, Van de Willige, Brosschot, Tellegen, & Graus, 1993).

Not much research so far has focused on how music listening can be used or is used to cope with stressful situations and challenges. North, Hargreaves and O’Neill (2000) suggested that music listening can be primarily conceptualized as emotion-focused coping. Miranda and Claes (2009) conducted pioneering work among adolescents in relation to coping tendencies and music listening. They argue that there are different ways in which music can be used in order to cope, such as to learn and get advice from the lyrics, which was identified as a problem focused coping strategy; music can be used to change affect and relieve boredom, which was identified as an emotion focussed coping strategy, and music can be used to focus on the music rather than on ones emotions which was identified as avoidant coping (Miranda & Claes, 2009).

Based on the result of a correlational study Miranda and Claes (2009) argued that listening to music for emotional coping was related to higher depression levels in boys and that listening to music for avoidance and disengagement of problems was related to higher depression levels in girls. They found that problem solving coping was also related to lower depression levels in girls.

In sum so far not much research has focussed on investigating the ways in which music can be used for coping. As such the current PhD research will contribute to psychological literature by providing new insights in relation to music listening and
coping. It is expected that new insights will be provided in relation to how listening to self selected sad music can contribute to coping with sadness. Moreover, new insights are also expected in relation to people’s decisions to engage in listening to happy music. One of the studies in the current thesis will be discussing people’s preferences for happy and sad music among different emotional state and will also relate this behaviour to coping (Chapter 5).

Self-Regulation and Music

Saarikallio and Erkkilä (2007) explored the music related activities that adolescents employ to regulate their affective states. As part of this study an overview was made of the different music strategies that 11 Finnish adolescents had used to regulate their moods. It was found that in an attempt to improve and control affect, adolescents generally used 7 different types of regulatory strategies. These strategies were: Entertainment, which means creating a nice atmosphere and happy feelings; Revival, which means personal renewal and getting new energy when feeling stressed and tired, Strong sensation, which means searching for strong emotional experiences; Diversion, which means forgetting unwanted feelings and thoughts; Discharge, which means emotional disclosure; Mental Work, which means using music for contemplation and reappraisal; and Solace, which means searching for feelings and being accepted. They noted that ‘one musical activity could serve as a means for realizing multiple regulatory strategies, even at the same time’ (p. 102). Saarikallio and Erkkilä (2007) additionally modelled the psychological processes underlying musical activities. In line with the findings from this literature review they found that individual factors and external factors can have an influence on what strategies people use to regulate their moods and that adolescent often engage in specific musical activities in order to self-
CHAPTER 2: LITERATURE REVIEW

regulate. In sum results of this study showed that music is a powerful and versatile tool for affect and self regulation.

Functions of Music

In addition to the research by Saarikallio & Erkkilä (2007) in which many music activities were found that ultimately served as a strategy to improve or change affective states, many other studies have focused on unravelling the functions that music listening can serve. The term functions refers to both the goals that people pursue by listening to the music as well as the effects that listening to music can have on people (e.g., Laukka, 2007; Saarikallio & Erkkilä, 2007; Schäfer & Sedlmeier, 2009 - a). Based on these studies it has been shown that people listen to music for a variety of different reasons and use it to reach a variety of different goals to serve their personal needs. Based on a review of the literature, these goals and needs can be summarized as follows; to change moods and emotions, for reinforcing and maintaining affect, for relaxing effects, for retrieving memories and reminisce for managing and satisfying arousal levels, to physically activate and to motivate the self for physical activity, for raising energy levels, for enhancing interactions with the social environment, to seek, form, or express an identity, for comfort as an imaginary friend, to distract from inner thoughts and feelings, to relieve boredom and enhance feelings of meaningfulness, for cognitive reappraisal, and to increase ‘perceived’ information processing and cognitive tasks (Baumgartner, 1992; Beentjes & van der Voort, 1997; Berlyne, 1971; Chen and Zhou, 2007; DeNora, 1999; Haake & Dibben, 2006; Juslin & Laukka, 2001; Juslin & Västfjäll, 2008; Karagreorghis, Jones, & Low, 2006; Knobloch & Zillmann, 2002; Kotsopoulou & Hallam, 2010; Labbé, McNamara & Ballard, 1999; Labbé, Schmidt, Babin & Phar, 2007; Lonsdale & North, 2011; North et al., 2000; Priest & Karagreorghis, 2008; Rentrow & Gosling, 2006;
CHAPTER 2: LITERATURE REVIEW


Summarising the above, the use of music can be grouped into three categories: management of identity, interpersonal relationships, and mood (Hargreaves & North, 1999; Tarrant, North, & Hargreaves, 2000).

Lonsdale and North (2011) recently conducted a study to summarize the reasons for which people listen to music. They first identified all the different reasons why people listen to music in a qualitative study and then let people rate these in a follow-up correlational study. They conducted a factor analyses on the data of their follow-up study in which they identified 6 factors. The identified factors were; negative mood management, meaning that music is used to alleviate negative moods; personal identity, meaning that music is used to for identity development and portraying social images to others; surveillance, meaning that music is used to learn about things; positive mood management, meaning that music is used to optimize positive moods; interpersonal relationships, which means to promote and maintain social interaction; and diversion, meaning that music is used to distract and relieve from boredom and pass the time. As part of this study Lonsdale and North (2011) calculated the mean scores on each factor. In line with findings of a variety of other studies (Van Goethem, 2011; North, Hargreaves & O’Neill, 2000) the results indicate that the functions of music listening are primarily emotional and that social functions of music listening are of secondary importance.
Effects of Music Listening and Types of Music

One effect of music listening is that different types of music, such as music that portrays different emotions, also elicit different physical responses. For example, heart rates are slower during sad music excerpts than when listening to happy music (Barllett, 1999; Khalfa, Peretz, Blondin, & Manon, 2002; Khalfa et al., 2008; Krumhansl, 1997; Witvliet & Vrana, 2007), and breathing rates increase more during happy than during sad music excerpts (Bartlett, 1999; Khalfa et al., 2002; Etzel et al. 2006; Krumhansl, 1997). It has been found that in comparison to sad excerpts happy excerpts elicit larger skin conductance responses (Bartlett, 1999; Khalfa et al., 2002), and faster heart and respiration rates. Moreover, in a study where participants listened to 3 minutes of sad, fearful and happy music excerpts, participants diastolic blood pressure increased more for sad than happy excerpts (Krumhansl, 1997). However, blood pressure does not always vary as a function of listening to happy and sad music as no differences were found between happy and sad music in relation to blood pressure in a study by Nyclicek and colleagues (1997).

An interesting finding in relation to music listening is that self-selected music is more effective in reducing stress than prescribed music. This was found as the result of an experiment (Labbé, Schmidt, Babin, & Pharr, 2007). These authors explained that one important reason that may explain why self-selected music is more effective in reducing stress than prescribed music is the perceived control that people experience when being able to select the music themselves. It has been found that perceived control is an important factor in reducing stress responses (Brannon & Fiest, 2007).

Researchers have also investigated thrills or chill responses in relation to music listening. Findings show that such responses may be more prevalent for sad than for
happy pieces of music (Goldstein, 1980; Panksepp, 1995) and do also occur more often during high emotional responses than during arousing or relaxing music (Rickard, 2006).

Not only do different types of music elicit different physical and emotional responses, different ‘behavioural reaction patterns’ have also been found in relation to listening to different types of music. In short, the psychological reactions that people have in relation to music vary as a function of the situation, which may also indicate that people’s personal needs for music vary as a function of the situation. Results of several studies show that persuasion is enhanced when the music is appropriate (high fit) for the context in which it is played (Yalch & Spangenberg’s, 1990). Moreover, sales are enhanced when music is associated with the perception of higher-priced store items, which partly explains the enhancement of sales by the hearing of classical music (MacInnis & Park’s, 1991; Wilson, 2003). For example, in an experimental study the music played in a restaurant was varied on several different days. The effects that different types of music had on perceived atmosphere as well as on the amount of money patrons were prepared to spend were measured. As expected, it was found that music had an effect on both the atmosphere and the amount that participants were prepared to spend. Classical, jazz and popular music were associated with patrons being prepared to spend the most money on their main meal. When easy listening was played or no music was played then the amount of money participants wanted to spend on their main meals was found to be significantly lower (Wilson, 2003).

In another experimental study in which either classical music or top-40 music was played in a wine store, it was found that playing classical music increased sales more in comparison to playing popular music (MacInnis & Park’s, 1991). The idea that music triggers relevant information that may ‘prime’ consumers’ beliefs about a product has
been described as ‘musical fit’ (Hallam, Cross, & Thaut, 2008; North & Hargreaves, 1996).

Different behaviour patterns have also been observed in relation to the tempo of music. For example, in an experimental study that was conducted at a restaurant it was found that dinner was eaten more quickly when faster the music was heard (Roballey, et al., 1985). Similarly in a study that focused on music in a supermarket, it was found that slower music was associated with a slower shopping pace, and increased gross sales (Milliman, 1982). The effects on faster and slower movements have been largely explained by people’s tendencies to synchronize their movements with the tempo of the music (Hallam, Cross, & Thaut, 2008).

In sum, different physiological reactions and behaviour patterns were triggered in the situations outlined above depending on which music was played. As different physiological reactions and behavioural patterns are observed as a result of different types of music heard, it may also be very likely that people are aware of these effects and will consciously or subconsciously make use of them for self-regulation.

Summary of this Literature Review

In this literature review, music listening has been discussed in relation to everyday life, affect, and in relation to affect and self-regulation. Based on findings it can be concluded that music listening plays an important role in everyday life and that music preferences and tastes may vary as a function of personal and dispositional factors. Moreover, it seems that music listening conveys a variety of affective responses in listeners. These responses are not always similar to the emotions portrayed by the music or the emotions which the musician was trying to portray. Finally, music listening seems to play a very important role in self-regulation and music can be used to convey a variety
of psychological and physical reactions. It seems that music listening seems especially valuable as a tool to regulate affect.
References Chapter 2


CHAPTER 2: LITERATURE REVIEW


CHAPTER 2: LITERATURE REVIEW

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CHAPTER 2: LITERATURE REVIEW


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CHAPTER 2: LITERATURE REVIEW


CHAPTER 2: LITERATURE REVIEW


CHAPTER 2: LITERATURE REVIEW


CHAPTER 2: LITERATURE REVIEW


CHAPTER 2: LITERATURE REVIEW


CHAPTER 2: LITERATURE REVIEW


CHAPTER 2: LITERATURE REVIEW

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CHAPTER 2: LITERATURE REVIEW


Chapter 3

*Exploring a Rationale for Choosing to Listen to Sad Music When Feeling Sad*
CHAPTER 3: EXPLORING A RATIONALE

Abstract

Choosing to listen to self-identified sad music after experiencing negative psychological circumstances seems paradoxical given the commonly-held view that people are motivated to seek a positive affective state when distressed. We examined the motivations people described to listen to music they identified as sad, particularly when experiencing negative circumstances, and the self-reported effects of this activity. We asked adults to respond to an online survey and analysed their narrative reports using a modified Grounded Theory approach. Responses were received from 65 adults across five countries. The process that underlies choosing to listen to sad music as well as the self-regulatory strategies and functions of sad music were identified. The music-selection strategies included: connection; selecting music based on memory triggers; high aesthetic value; and message communicated. The functions of these strategies were in the domains of (re-)experiencing affect, cognitive, social, retrieving memories, friend, distraction, and mood-enhancement. We additionally modelled the underlying psychological process that guides sad music listening behaviour and the effects of listening. These findings present core insights into the dynamics and value of choosing to listen to self-identified sad music when coping with negative psychological circumstances.

Keywords

adults, adverse emotional events, qualitative inquiry, sad music listening, self-regulation
CHAPTER 3: EXPLORING A RATIONALE

Introduction

The effects of music listening on psychological functioning are of interest to a growing community of researchers (Miranda & Claes, 2009; Saarikallio & Erkkiä, 2007; Schwartz & Fouts, 2003). Music listening is used by people to help them relax and calm down (Labbe, Schmidt, Babin, & Pharr, 2007; Wells, 1990), and people can use music listening to feel supported when ill (Ahmedi, 2011; Särkämö et al., 2008).

Music listening fulfils multiple purposes, of which the psychological and social functions of the music chosen are probably the most important (Hargreaves, 1999; Lecourt, 2004). It has been proposed that music has important psychological effects even if one is not consciously aware of them (Laiho, 2004). Listening to pleasant music has also been shown to raise dopamine levels resulting in activity in brain regions that are associated with pleasure, reward and emotional response (Menon & Levitin, 2005).

Knowledge about how music can be used to promote physical and mental health is of interest to a range of scientific research endeavours as well as for professionals in health disciplines (Edwards, 2006). However, little research has specifically aimed to understand the reasons people choose to listen to music they perceive to be sad, and the possible effects of this choice in terms of managing psychological distress. Two studies of adolescent music listening found that listening to sad music was a coping strategy used by participants when experiencing negative life circumstances (Gibson, Aust, & Zillmann, 2000; Saarikallio & Erkkilä, 2007). In two focus-group interviews conducted with Finnish adolescents, one group of four 14-year-olds, and the other with four 17-year-olds, Saarikallio and Erkkilä (2007) found that these adolescents used a variety of music-related strategies to achieve self-regulatory sub-goals that were indirectly aimed at regulation of their moods. Their results indicated that mood regulation through music
could be distinguished at being aimed at either *improving an affective state* or *controlling an affective state*.

Some aspects of listening to music identified as sad by either the listener or by the researcher have been explored. For example, patients diagnosed with a major depressive disorder were shown to be more oriented to the cues in sad music than healthy control subjects (Bodner et al., 2007). Related studies have proposed some functions and benefits of listening to self-selected music in adverse circumstances. For example, music listening has been described by people diagnosed with cancer as a way to cope with their disease helping ‘to see themselves as someone else...thus creating greater distance to the sick role’ (Ahmadi, 2011, p. 14). Similarly, combining music listening with music learning and forming a band was shown to reduce self-injury and depression among adolescent patients in a mental health service (Plener, Sukale, Ludolph, & Stegemann, 2010).

However, there is a lack of current research that provides a theoretical explanation of psychological processes that can explain why people choose to listen to music they perceive as sad (Saarikallio & Erkkilä, 2007) or why music is selected based on peoples current mood rather than on the target mood (Saarikallio, 2010; Thoma, Mohiyeddini, Ehlert, & Nater, 2011). Our research explores possible explanations for music listening behaviour to further understand how people might attain psychological benefits from listening to sad music.

**Definitions**

Outlining the meanings of several definitions is necessary to support the assertions made in the current research. As illustrated in Figure 1.1, emotions are considered to reflect environmental states and cognitive appraisals that tend to have a clear focus and are often accompanied by physiological processes and expressions.
(Gross, 2007; Larsen, 2000). Moods are lower in intensity than emotions, usually last longer and tend to be more unfocussed (Gross, 2007; Larsen, 2000). The word affect refers to feeling states and can be used as an overarching term for the terms emotion and mood (Gross, 2007; Larsen, 2000).

As illustrated in Figure 1.2, the term regulation implies the modulation of thoughts, affect, behaviour or attention via the use of strategies. Thus, mood regulation refers to the set of processes by which mood states are able to be managed, whereas self-regulation refers to the regulation of all psychological processes related to the self. Strategies are conscious and unconscious goal-directed activities aimed at achieving certain outcomes. The term goal is used for the desired outcome(s) of the processes of regulation (Karoly, 1993). Furthermore, the term function has been used in literature to describe the possible goals and effects that music listening can serve (Laukka, 2007; Saarikallio & Erkkilä, 2007; Schäfer & Sedlmeier, 2009). To this list of definitions we would also like to add the term effect, which describes the outcome of the process of self-regulating by music. This example is offered for clarification: the selection of upbeat fast music (strategy) in order to feel energized (goal) probably often results in becoming energized (effect) during and after listening. In this example, the function of the music is to make the listener feel energized. When, as a result of listening, the goal (such as becoming energized) is achieved, the effect of listening is similar to the goal.

**Mood-Enhancement and Music**

Although research has already shown that music is often used by people to improve their moods or to attain a positive affective state in a process referred to as mood-enhancement (Larsen, 2000), it has not been established as to why people sometimes listen to self-identified sad music when they are already feeling sad. Mood-
enhancement is found to be one of the most important and well-documented self-regulatory goals people have for listening to music (Ter Bogt, Mulder, Raaijmakers, & Nic Gabhainn, 2010; Thayer, Newman, & McClain, 1994). However, a majority of mood-enhancement research has documented that the motivation to enhance mood is driven by the intrinsic need to relieve undesired emotional states (Cialdini, Darby, & Vincent, 1973; Gross, 2007). For example, in a discussion of the cognitive functions of entertainment, Zillmann (1988) proposed that people are motivated to avoid noxious stimuli and instead ‘are motivated to perpetuate and increase the intensity of pleasurable experiential states’ (p. 147).

We developed an interest in the idea that people who have recently experienced an adverse emotional event may have motivations other than mood-enhancement for their music listening choices. We therefore proposed to explore whether there may be additional self-regulatory or coping values that are relatively specific to selecting self-identified sad music.

**Music and Self-Regulation Goals**

Although adults’ use of sad music for self-regulatory goals and coping has received little attention in contemporary music psychology research, literature from a broader range of inquiry can inform this subject. For example, in a study of adolescent music listening and personality profiles, Schwartz and Fouts (2003) proposed that music listening could help escape unwanted moods, change moods, or validate existing moods. Several other studies have also investigated music listening and self-regulation. A variety of functions served by music listening have been identified, among which are mood-enhancement, relaxation, distraction and reminiscence, coping with problems, and expressing one’s identity (see, e.g., Chen, Zhou, & Bryant, 2007; De Nora, 1999; Laukka,
CHAPTER 3: EXPLORING A RATIONALE

2007; Lonsdale & North, 2011; Saarikallio & Erkkilä, 2007; Schäfer & Sedlmeier, 2009; Schwartz & Fouts, 2003; Ter Bogt et al., 2010; Thayer et al., 1994). Moreover, some of these studies have also investigated the psychological processes that underlie music listening and have identified selection strategies that people use to achieve these functions, such as selecting the music because it reminds one of something or someone, or because it portrays certain emotions (De Nora, 1999; Saarikallio & Erkkilä, 2007; Van Goethem & Sloboda, 2011). However, we did not find any studies that reviewed the functions of listening to self-identified sad music when experiencing emotional distress or any studies that attempted to examine the strategies people use for selecting sad music in negative circumstances or when experiencing a sad mood.

Self-Identified Sad Music

We chose to focus on music choices perceived by the listener to be sad. We describe this music as self-identified sad music, meaning any music of the listener’s choice that the listener perceives as portraying sadness, or is experienced by the listener as evoking sad feelings. Moreover the current research also focussed on self-selected sad music, which is music that has been identified to sound sad from the perspective of the listener and music which the participants has actively decide to listen to rather than that the participants was exposed to the music. Saarikallio and Erkkilä (2007) proposed that when people use music as a means of self-regulation it is important that this selection is voluntary. Furthermore, several studies have found that individuals’ emotional reactions to music are idiosyncratic. Gender, age, personality, personal memories, culture, and also situational factors, such as whether one is listening alone or in company, and the current affective state of a listener, have all been found to affect individual responses to music and evaluation of the music (Chamorro-Premuzic & Furnham, 2007; Chen et al., 2007;
Janata, 2009; Juslin & Västfjäll, 2008; Lavond & Steinmetz, 2003; Lima & Castro, 2011; Schäfer & Sedlmeier, 2009; Vuoskoski & Eerola, 2011). For those reasons it was deemed important to focus on sad music from the everyday perspective of the listener in our study rather than adopting an external standard of what sad music is. It has to been made clear that self-identified sad music and self-selected sad music sad is music that has been identified to sound sad from the perspective of the listener, rather than music that has been identified by researchers to have the typical features (Gabrielsson & Lindström, 2001; Juslin & Laukka, 2004; Khalfa, et al., 2008) of sad music.

Knowledge about the extent to which a coping function motivates the choice to listen to self-identified sad music is valuable for understanding more about the dynamics behind people’s selection of self-regulatory strategies in the pursuit of their well-being. We hope that our findings and ongoing research will amplify some other areas of research, such as how emotional aspects of music listening might function as a memory trigger for recall of prior life events and circumstances (Cady, Harris, & Knappenberger, 2008; Janata, 2009).

Methods
Exploring Why People Listen to Sad Music When Experiencing Emotional Distress

An initial exploration of why people listen to music that they perceive as sad when they are experiencing emotional distress was conducted by collecting written narratives guided by a series of short questions collected anonymously on the internet. The process and findings of the research presented here are intended to provide foundation material and information for further in-depth and wider-ranging research in this field.
We used a modified Grounded Theory approach, meaning that aspects of a Grounded Theory approach informed the methods we used (Charmaz, 2008). Curiosity about a relatively-unexplored situational phenomenon drives the Grounded Theory method, as Grounded Theory can be used very effectively for the first exploration of unexplored topics (Charmaz, 2008). The fundamentals of a Grounded Theory approach have been described as having four elements:

1. Minimizing pre-conceived ideas about the research problem and the data;
2. Using simultaneous data collection and analysis to inform each other;
3. Remaining open to varied explanations and understanding of the data; and
4. Focusing data analysis to construct middle-range theories (Charmaz, 2008, p. 155).

The method that guided this research was strict in following points 1, 3 and 4 but can be considered modified around the processes of simultaneous data collection and analysis. A grounded theory approach is usually conducted by returning several times to the field with new questions to discuss with participants (Charmaz, 2008). We made use of constant comparison between the theory, the codes, the categories, and the survey responses and existing literature. We did not go back to the existing participants with new questions, but, rather, we went back to newly-collected responses as they came in, as well as reading further literature during the process of generating theory.

We used online survey sampling, requesting people to think back over a recent time when they had listened to sad music. Responses varied from 30 words to 530 words per participant, with an average of 150 words per participant. Since most responses were detailed and overall represented a rich range of experiences, we consider that this approach to initial data collection to explore this topic was justified. Due to the nature of our data collection, the insights we gained may be considered less deep, but broader than
they would have been if we had conducted in-depth interviews or went back to the same participants with new questions. We consider this process of data collection valuable for investigation of a relatively-unexplored topic, as current findings providing a broad perspective on the subject of investigation. Additionally, they provide a basis from which to undertake further in-depth exploration of this topic in the future.

We are aware that in grounded theory approach usually data collection is conducted through work in the field (Corbin & Strauss, 1990). However, in this case trying to capture people in music-listening situations following adverse emotional events not only seemed impractical but also odd. This was further supported by our discovery of a study of athletes’ motivations for music selection where interview procedures were problematic and unsuccessful in engaging participants in relevant recall of either motivations for music selections, or details of the selected music (Bishop, Karageorghis, & Loizou, 2007).

Participants

To shed a broad light on the phenomena of sad music listening after adverse events, it was intended to gather as many responses as possible. Participants were contacted to take part in the study by means of an email invitation and posting of web-links on public internet sites. A requirement of the university-based ethical clearance procedure was for all participants to have an appropriate understanding of English and to be at least 18 years old. Sixty-five people volunteered: their ages ranged from 18 to 66 ($M = 26$) with 30 female participants. Two participants did not indicate their gender. Thirty-seven respondents were Irish, 22 were Dutch, three were American, one was German, and one was Spanish. One participant did not report his nationality.
CHAPTER 3: EXPLORING A RATIONALE

Procedures

Participants were provided with a web-link to an information sheet, the consent form, and to an open-ended survey (see Appendix 1). Participants were asked to recall a negative life event after which they had chosen to listen to sad music. They were requested to describe this event in order to facilitate detailed recollection of the experiences and to increase the accuracy of subsequent recalled thoughts, behaviours, and feelings. Next, participants were asked to describe why they had listened to sad music in these situations, and what the experienced effects of listening to the sad music were during and after listening. Upon completion of the study, participants were thanked and the email address of the first author was provided so participants had the opportunity to ask questions about the research.

Data Analysis

All responses were read carefully, coded line by line and categorized thematically. Analysis of the respondents’ narratives generated multiple codes which were formed into sets of categories and overarching categories through constant comparison between the codes, the categories, and memos based on literature and the survey responses. Reflective memos were made about the rationale for coding and categorizing, including thoughts about theoretical perspectives about music listening when feeling upset. Reflective memos were additionally written to describe the relationships between core thematic materials, a process that sometimes is also described as axial coding (Corbin & Strauss, 1990; Strauss & Corbin, 1990). This was done throughout the entire process of data coding and categorizing. The axial coding was meant to deepen the understanding of the psychological process that underlies adults’ sad music listening behaviours in order to develop a descriptive model. Using the constant comparative method that is a hallmark of
CHAPTER 3: EXPLORING A RATIONALE

grounded theory (Charmaz, 2008), there was a constant moving back and forward between the responses, the literature, and our own developing theory. In a grounded theory analysis the researcher deepens an understanding of the core thematic material through this process which is ongoing from the start of data collection (Corbin & Strauss, 1990; Strauss & Corbin, 1990).

The first author undertook the coding and categorization and wrote reflective memos. Both authors read a number of relevant articles in order to reflect further on the developing theory and on the kind of functions music listening can serve and the strategies people may use to select music (among which are: Gross, 2001; Juslin & Västfjäll, 2008; Karoly, 1993; Labbe et al., 2007; Laiho, 2004; Laukka, 2007; Lecourt, 2004; Neff, 2003; Saarikallio & Erkkilä, 2007; Schäfer & Sedlmeier, 2009; Sloboda, 1992; Ter Bogt et al., 2010; Thayer et al., 1994; Wells, 1990; Zillmann, 1988). The second author checked the codes and categories and meetings were held in which suggestions for titles and themes were discussed. Several sessions were held in which categories, codes, memos and potential theory were discussed and the discussion of this informed the considerations of the terminology and structure of the results.

The processes we used were based on grounded theory as formalized by Charmaz (2008) and described by Saarikallio and Erkkilä (2007):

Theory development started with line-by-line coding, and evolved to a selective or focussed phase of using the most significant codes to synthesize the data. Axial coding...specifying categories and finding links between them...and the reasons for shared and unequal elements between codes and categories were explored...theory development reached the formal analysis through memo-
CHAPTER 3: EXPLORING A RATIONALE

writing...which moved the analysis beyond individual cases towards defining patterns. (2007, p. 92)

Results and Discussion

Based on our analyses we argue that, to understand the psychological processes that guide sad music listening, it is important to not only understand the functions that sad music can serve but to also understand the strategies through which music is selected. In the following section the categories that emerged from our analysis are formed into two groups or meta-categories: one group describes the emergent self-regulation strategies served by music listening, and the other group describes the functions served by music. The music-selection strategies were: connection; selecting music based on memory triggers; high aesthetic value; and message communicated. The functions were: (re-)experiencing affect; cognitive; social; retrieving memories; friend; distraction; and mood-enhancement. After discussing these categories we will also provide and discuss a model that gives an overview on the general psychological processes that underlie sad music listening. In this model we will give an overview on the processes of motivations for music listening when feeling sad and on the effects music listening can have.

Categories of Strategies

Connection

The music-selection strategy of finding a ‘connection’ with the music was reported by participants and can be described as selecting music because of similarities between one’s own affective state and the affective sound of the music. In addition it was observed that some respondents identified with the content of the lyrics and others described how the lyrics portrayed life experiences or emotions to which one could relate.
The following examples show how respondents reported this way of choosing music because of the connection with their own affective situation:

Can Atilla ‘Gulbahar’: I listen to this song all the time I feel lonely and left or thinking about one-way love. The stranger can understand a sad feeling because the melody sounds sad, tender, it is sung by a woman who had experienced the same situation. (24, female)

I listened to ‘sad’ music when my fiancé was working in South Africa for six months and I was missing him terribly. I specifically googled songs about missing a loved one, being apart from the person you loved and wanting that person to come home. I then downloaded them and listened to them to see if I liked them or if I could relate to them to see if they made me feel better. The ones I liked, I have them on a playlist and I made a CD for my fiancé. They consoled me a little and allowed me to indulge in my own misery because if somebody wrote a song about it, then I wasn’t the only person feeling really sad for the same reason. It also made me feel a little closer to him while he was away because if it was a male vocalist, I’d imagine it was him missing me too. (31, female)

This selection strategy was very often used by participants. Selecting music because of connection was especially very popular for participants who were dealing with a break up of a relationship; it was also often reported among a range of other situations. Listening to music with these qualities was a prerequisite for achieving many self-regulatory functions of which the two most often mentioned were: (1) strengthening the intensity of the respondent’s current emotional state; and (2) getting in touch with certain
emotions. This is an example of someone who used a connection strategy for selecting the music in order to be more in touch with her feelings:

I was feeling upset when I came home after the breakup, and wanted some music to listen to that would reflect and match how I was feeling in that moment. I didn’t want music that would cheer me up, I wanted to stay with those emotions for a while until I was ready to let go of them. (25, female)

Connections with the music seemed to have played a major role in selecting music that fitted the situation and mood. The popularity of selecting music with a connection selection strategy seems broadly in line with recent findings that current mood is a better predictor of music selection than target mood (Saarikallio, 2010). Moreover, in another recent study it was found that daily favourites often reflected daily events and that those daily favourites do not always reflect long-term favourites (Lamont & Webb, 2009).

**Memory triggers**

Selecting music that was in the past heard during certain events, at certain places or with certain people and was therefore a strong reminder of these events, places or people was also reported. The self-identified sad music was usually chosen because it was associated with a person. One respondent described this as follows:

I selected some music that reminded me of my family, to remember my family and to grieve. Memories I shared with them came to mind. Very upsetting but a good release of my grief. (19, female)

We have to point out that, in some examples, people made new associations during listening; however, with the strategy ‘memory triggers’ we only wish to refer to the conscious selection of music where participants already had a memory associated with the music. When participants addressed this strategy they often wanted to experience
memories, nostalgia, or feeling closer to others they missed. Participants selected and used the music to make specific memories or associations more salient. This selection strategy was relatively often reported and was used when the listener missed someone, felt homesick, or wanted to grieve a loss. For example:

I selected the music, because I know he [the person who had died] had liked the music too. (48, female)

I listen to sad music because it helps me remember things, like when we had our graduation in secondary school ‘footprints in the sand’ was our grad song. I listen to that sometimes to remember my friends who I don’t see anymore. (18, female)

In line with other research we found that listening to music with memory triggers could be used to trigger context-dependent episodic memories (Gabrielsson, 2001; Janata, Tomic, & Rakowski, 2007; Sloboda, 1992; Wallace, 1994) and for intensifying and getting in touch with emotions (Baumgartner, 1992). This latest function can be achieved because, when a memory is retrieved through music listening, emotional content of this memory can be re-experienced (Baumgartner, 1992). We additionally found that this strategy could be used for social goals, such as to retrieve memories about others, and to feel closer to others.

The functions that related to this strategy seemed to be situation dependent. For example, when loss was experienced, participants used this music-selection strategy to get in touch with emotions and to grieve, but when the listener was missing someone then the sad music listening was usually used to feel connected to people and/or to experience nostalgia.
High aesthetic value

Some participants chose a music-selection strategy that we labelled ‘high aesthetic value’, which reflected that the music was considered to yield a sense of beauty according to the listener or that the listener considered the music to be ‘good’ music. In other words, rather than mentioning that the song for instance reminded them of something or that the song fitted their mood very well, this selection strategy defined all the stories of participants who had mainly chosen the music because they found the music beautiful or good. For example:

Because it is beautiful and my son reminded me of the existence of the song earlier that week when he told me that it was used in a motion picture. (63, male)

... ‘sad’ music as written by Williams, Diary, Newmen, etc. is good music in my eyes. It expresses an emotion within. (21, male)

Some of these participants mentioned that music with high aesthetic value also contained more emotional content. This strategy was used among a variety of different situations. However, when this selection strategy was used, situations were less stressful and more mundane in comparison to when other strategies were used. Several participants had mentioned that they chose to listen to music with high aesthetic value because this helped them to distract themselves from their negative feelings and thoughts or because listening to the good or beautiful music was enjoyable and helped with enhancing their moods. In line with this, Hekkert (2006) argued that stimuli that one perceives to have ‘high aesthetic value’ generate sensory pleasure. Moreover, it has been found that sad music and art that are perceived as pleasurable can activate circuits in the brain that are associated with inhibition of displeasure (Schubert, 1996) and that pleasant
music raises dopamine levels resulting in activity in brain areas that are associated with pleasure, reward and emotional response (Menon & Levitin, 2005).

**Message Communicated**

The final identified music-selection strategy arising from the analysis was labelled ‘message communicated’. Only a few listeners reported that they perceived a specific song or type of music to be sad but that at the same time it communicated an important or positive message, to raise hope, or to empower the listener. For example:

Calm with lyrics. The music sounds sad, but the lyrics communicate hope. (25, female)

Participants who had reported to use this music-selection strategy stated that it was important to experience the sadness but to also instil themselves with the message the music gave. Moreover, it seemed that selection of music in which a message was communicated could be used effectively for changing the thoughts someone has about an event or a situation:

The Waterboys song: to me it seems to channel my emotions, and the lyrics give me a sense of hope. (31, male)

In line with our findings, Saarikallio and Erkkilä (2007) also reported comparable patterns in music selection among adolescents. They observed that ‘adolescents appreciated songs that concerned issues they considered meaningful’ (p. 100). As only a few responses were identified in which the message that the music communicated was important for selecting the music, we cannot say in what situations this strategy is typically used.
CHAPTER 3: EXPLORING A RATIONALE

More than one strategy

People sometimes had reported more than one reason for choosing to listen to a specific song. For example:

Eminem and Rihanna ‘Love the Way You Lie’. This song reminds me of my past, and people who I was close with but now lost the contact with. In particular I can associate this song with break up; therefore I had very strong sad feelings when I listen to the song. (21, female)

Categories of Self-Regulatory Functions

(Re-)experience affect

Many respondents reported that they listened to sad music to get in touch with their feelings, to intensify their current feelings, and to experience and express feelings. The feelings reported were almost invariably sadness, loss or grief, and occasionally other negative feelings such as disappointment and anger. For example:

I felt emotions like sadness, and frustration because the failure of the relationship. These emotions were already there but the music made it more present. (23, female)

Some participants even described the emotional experience accompanied with the sad music listening as being cathartic or literally described a cathartic experience. The music would first help them to get in touch with their feelings or intensify their feelings and would then help them to move on or feel better. For example:

I was at home, feeling sorry for myself and feeling bad though I could not cry. So I decided to play some sad music in order to cry a little and then feel relieved and move on. (24, female)

...it works cathartic (26, male)
CHAPTER 3: EXPLORING A RATIONALE

These findings were not surprising as the effectiveness of music for changing or regulating mood is well documented (see, e.g., Juslin & Västfjäll, 2008; Laukka, 2007; Lonsdale & North, 2011; Saarikallio & Erkkilä, 2007; Schäfer & Sedlmeier, 2009; Schwartz & Fouts, 2003; Sloboda, O’Neill, & Ivaldi, 2001; Van Goethem, 2010). Moreover, it has been reported that the emotional needs that certain music serve do to a great extent explain the selection of music (DeNora, 1999). The following response describes how someone who makes music himself explains the emotional power that music conveys:

I’ve always wondered why I listen to sad music (especially Jazz and blues). I could never explain that in any words I know. ‘Till I started playing music myself. Music for me now is like an extension for words. It enables me to express emotions that cannot be expressed in words. And if I could play according to my mood, someone else who experienced the same emotions would be deeply touched by my music and he/she just can’t explain what happened. It’s like a form of expression. (23, male)

Some of the self-regulatory functions in this category were important for achieving other functions. For example, some participants described how they would first have to get in touch or express their feeling in order to understand these or cope with feelings in the long term:

Also I felt that listening to the music would encourage me to feel the pain as it were, plus allow me to have a good cry for myself...It probably did not make me feel any better at the time, but may have helped me cope overall. (22, female)
This function of music listening was reported in many different situations. The strategies used to achieve these functions varied, but many respondents reported using a connection strategy or selecting music that reminded them of a person or event:

When I was going through a break up, I listened to a lot of sad songs, which included songs dealing with heartbreak, loneliness, and sadness. Some people, when they are sad, listen to happy music to cheer themselves up, but for me, it was much easier to relate my feelings to music, because these artists were able to express their emotions in a way in which I was unable to do…These songs allowed me to feel every sad emotion I needed and, through that, I was able to heal myself through the music. (21, female)

The fact that participants often made use of a connection strategy to (re)-experience affect can probably best be explained by a process that Juslin and Västfjäll (2008) called emotional contagion, in which a listener unconsciously mimics the emotions perceived to be portrayed by the music, which can lead to an induction of the same emotion by means of either peripheral feedback from the muscles or by activation of relevant emotional representation of specific areas in the brain.

**Cognitive**

The functions within this category were identified as thinking more clearly, comprehending, and taking a new perspective or seeking new meaning through a cognitive reappraisal process which is a term used to describe the process by which a person reframes and cognitively re-evaluates an emotional event to decrease the emotional impact this event has (Gross, 2001). For example:

So I choose to listen to a few songs to calm me down and make me think straight again. (27, female)
I tried to imagine his perception of the songs and especially the meaningful and encouraging lyrics. It helped begin to create for me an understanding that our perceptions of music as well as life on a big scale are completely different to each other’s. (33, female)

...being able to see myself more in perspective. (30, female)

Listening to music for cognitive purposes was reported by several participants in different situations. Most of these participants reported that music helped them to realize that they were not the only ones who sometimes experienced some difficulties in their lives. For example:

It just gives people the greatest insight, that of feeling that other people than yourself experience pain. (22, male)

This was a code in our data that we labelled common humanity. According to Neff (2003), common humanity means ‘perceiving one’s experiences as part of the larger human experience rather than seeing them as separating and isolating’ (p. 85). Common humanity includes self-compassion which is ‘an emotionally positive self-attitude that should protect against the negative consequences of self-judgment, isolation, and rumination (such as depression)’ (p. 85). Although we perceived the code of common humanity as mainly cognitive, one may also argue that this code concerns some aspect of music as a friend, because common humanity concerns experiencing a relationship with the music in which one can, for instance, use the experience of the singer to reflect on oneself. However, as the experience of common humanity seems created by the reappraisal of feelings and thoughts rather than by a friend-like relationship with the music, we argue that this code can best be categorized as cognitive.
As noted earlier, people sometimes used music in which a message was communicated to achieve cognitive reappraisal, and this turned out to be a successful selection strategy for achieving this function. We, however, also observed that other selection strategies could also be successful for cognitive purposes. Depending on their circumstances participants used different music-selection strategies: a connection music-selection strategy could, for example, be used to reinterpret a situation and learn from the lyrics, whereas a music-selection strategy based on memory triggers could be used to make the associations someone had with the music stronger for cognitive purposes. In line with our findings that people sometimes use music for cognitive purposes, Van Goethem and Sloboda (2011) also reported that people sometimes use music for what they called ‘rational thinking’, a function of the music that included: reappraisal; positive thinking; and rationalization. Moreover, Lonsdale and North (2011) also reported that music is sometimes used to learn about things; they called this function of the music ‘surveillance’.

**Retrieving memories**

Many participants used music to retrieve memories. They wanted to retrieve memories of times, places, people, or passed events. For example:

[I listened to the piece of music] to remember someone who has passed away.

[which makes me feel ] good, because I know he liked the music too. (48, female)

When participants wanted to retrieve memories they often reported selecting a specific piece of music based on memory triggers. However, memories could also be evoked by using a connection strategy and new associations could be created to a song during listening:
The words of the songs also evoke memories, as I can relate the content of the song to particular events happening around that time. (22, female)

Moreover, all other music-selection strategies were identified in response where people described retrieving memories.

Retrieving memories could also bring back some of the emotional experiences and could therefore be used for intensifying and getting in touch with emotions (Baumgartner, 1992), which could help to release some of the emotions and experience catharsis. This was, however, also the reason that, after having developed ‘sad’ memory triggers with a piece of music, some participants did not want to listen to this music anymore, as it became too painful to be in touch with those emotions:

It brings back memories. Although I loved my grandfather, this piece of music reminds me of the time he died. Whenever I hear or play that piece of music it brings back those horrible emotions of when he passed away suddenly. (22, female)

This function of music listening was also reported by Van Goethem and Sloboda (2011) and in a study by Lonsdale and North (2011) who found that one of the main reasons for listening to music was to reflect on the past. People listened to the music to retrieve memories, when feeling lonely, when missing someone, after the death of a loved one or after having experienced a break up.

Social

This function referred to listening to music in order to feeling closer to loved ones. Here one example describes someone who had listened to sad music and who had experienced a social connection with her friends:
I felt it connected me with something deep and very authentic of the conflict Palestinians endure...Very sad. It gave me a deep sense of grief. It connected me with my friends and their ordeal, in a sort of spiritual way. (37, female)

Only a few participants listened to the sad music for pursuing this function. This function was usually pursued when people missed someone and they wanted to feel closer to this person. Participants selected music that reminded them of the people they wanted to feel closer to. Participants sometimes also selected music based on connection. Using a connection strategy could additionally intensify participants’ general affective experience.

This function had some overlap with the retrieving memory function, as people who listened to the sad music for retrieving memories often did this in order to feel closer to others. However, we want to point out that, when someone experienced that the music helped them feel closer to someone else, this did not always involve memories. This is portrayed in the second part of one of the earlier quotes:

It also made me feel a little closer to him while he was away because if it was a male vocalist, I’d imagine it was him missing me too. (31, female)

In line with this function, it has been reported that music listening is sometimes used as a tool for social bounding (Hargreaves, 1999; Schäfer & Sedlmeier, 2009; Tekman & Hortaçsu, 2002).

Friend

Participants did not only listen to music to feel closer to loved ones and specific others, but also experienced that the music was some sort of an imaginary friend. Although these two categories may seem related, we noticed that the imaginary friend could never replace the real missed friend and vica versa, as both these functions/
served different emotional needs. That is, people often listened to the music for experiencing a connection with a real person when this person was missed, and often looked for acceptance, comfort and support when they imagined that ‘the music’ could be their friend.

Several participants either described the experience of listening to sad music like being with a good friend, or suggested the music to have characteristics of a friend. This function was moderately popular for listening to sad music. Participants felt that the music was empathizing with their circumstances and feelings, supporting them, making them feel understood, or making them feel less alone in the way they were feeling. We did not identify any typical situations in which this function was used. Many different music-selection strategies seemed to have been mentioned when people selected music for this reason. In descriptions from participants that fell under this function, however, they most often described how they often listened to music with which they could connect, or they described to have felt a connection with the performing artist.

I felt befriended by the music – by this I mean that if you were to pretend the music/lyrics was a real person, with its lyrics of understanding, friendship, comfort and confidence, then surely the song would be your best friend, your soul-mate...Music personified is your soul-mate, your trusted secret friend who can empathize with you. (33, female)

In line with these findings, we observed that the experience of music listening has often been described before as being with a good friend and that music has often been described before as having friend-like characteristics (Saarikallio & Erkkilä; Sloboda, 1992; Small, 1998; Van Goethem, 2010).
Distraction

Participants reported listening to music to try to create distance from their sad feelings or thoughts by focussing on the music.

In life we are subject to high and lows. During the highs, life is easy. But it is hard during the lows and music offers an escape. (22, male)

The specific function of music listening for distraction of unwanted feelings and thoughts has been reported before (Lonsdale & North, 2011; Saarikallio & Erkkilä, 2007; Schwartz & Fouts, 2003; Van Goethem, 2010) and the music served to either distract someone from ruminating on a problem or to help one to focus on the sad music instead of on one’s own feelings. In our study someone also reported to have listened to the sad music as a distraction from silence, which probably also indirectly helped this person to stop ruminating over feelings of loss. Although it may sound controversial to select music with sad emotional content to distract from negative feelings and thoughts, we suggest that some adverse experiences are accompanied by such intense sad emotionality that it is becomes difficult to connect to music that is not similar to ones one affective state. In these situations music listening may function to provide some distance from the intensity of emotions experienced and will help to again experience control over feelings.

In this example a woman describes how music functioned as a source of distraction but also contributed to her being able to manage an immensely-stressful situation of loss. She describes the choice of music as being deliberate, specific, and directly related to coping:

Two close family members died within five days of each other and our house was very quiet during those days as you could imagine with no television or music and barely any talking so I couldn’t handle the silence anymore and took
out my ipod one night. Most of the songs on it would be pop or R&B music which wasn’t suitable for how I was feeling. I came across an Amy Winehouse album I had and for some reason it was the only thing I could listen to then so for those few weeks that album was all I listened to. (19, female)

People additionally reported that distraction could help them with feeling less bad:

It helped me to concentrate my feelings on something else than on my sorrow, which made me feel less bad for a while. (18, male)

In line with our findings, DeNora (1999) referred to music listening as a means for distracting from silence and additionally reported that this function of music can help to stop unwanted thoughts. In the study conducted by DeNora (1999) it was additionally reported that music that functions for distraction can be used to concentrate. Although we think it is likely that music that distracts one from unwanted feelings and thoughts may help one to concentrate better, we did not find that any participant reported this as a function of sad music listening. Moreover, although it is not unlikely that people sometimes select sad music as it sounds distracting, or in other words select ‘distracting’ sad music we did not find any examples of people selecting ‘distracting’ sad music as a strategy. In the current sample of responses we found that people who pursued the function of distraction often used a high aesthetic value music-selection strategy; we also found that people sometimes selected music that communicated a message, and also used a connection selection strategy.

Mood-Enhancement

Mood-enhancement is one of the most well-documented functions of listening to music in general (Lonsdale & North, 2011; Ter Bogt et al., 2010; Thayer et al., 1994). In line with this we found that people listened to ‘sad’ music to pursue mood-enhancement.
However, this function was not the most important one for sad music listening. Some cases were found in which participants described that mood-enhancement was the ‘direct’ result of music listening. This is exemplified in the following response in which some aspects of mood improvement are reported which are not described as being the result of first achieving another function:

When my dog died… It [listening to sad music] helped me relax and calm down. (20, male)

Mood-enhancement was usually described, however, as the result of first achieving other goals. Similar results have been reported before in a study by Saarikallio and Erkkilä (2007) that also focussed on music listening and other music activities among adolescents. Moreover, several other studies that focussed on investigating people’s self-regulatory goals have shown that achievement of long-term or overarching goals is often accomplished by pursuing more specific short-term or sub-goals (Baumeister & Vohs, 2004; Kruglanski et al., 2002). The following quotes give examples of mood-enhancement being the result of first reframing ones thoughts in a cognitive reappraisal process before feeling better:

When listening to this music, I felt better as it is good to know you’re not the only one feeling sorrow (19, male)

...feeling relieved after I decided that my life was at least not as bad. (24, female)

Mood-enhancement could also be the result of distraction from feelings and thoughts. Moreover, as portrayed in the following response, participants also reported that their mood could be enhanced after they felt to have been able to grieve by means of the sad music.

...ultimately I felt better after I had released some of my emotions. (21, female)
In line with current findings, it has been reported before that music that is rated as sounding ‘sad’ can produce positive emotions in someone who listens to this music (Gabrielsson, 2002; Kallinen & Ravaja, 2006; Salimpoor, Benovoy, Longo, Cooperstock, & Zatorre, 2009). However, in line with our findings that (re-)experiencing affect was the most important function for listening to ‘sad’ music, we suggest that mood-enhancement may in general rather be easily achieved as a ‘direct’ function of music that sounds ‘happy’ rather than as a result of ‘sad’ music, as music that sounds happy may help to (re-)experience happy affect, in a similar way as music that sounds sad may help to (re-)experience sad affect.

More Than one Function

As reported before in other studies on music listening in general (Saarikallio & Erkkilä, 2007; Van Goethem, 2010), we found that sad music listening could often serve more than one purpose. Music listening could, for instance, simultaneously serve to intensify and express feelings and for retrieving memories and feeling closer to others. In the following example many different functions of sad music listening are described simultaneously and as a result of listening to one piece of music:

It felt as if a rush of emotions were released; they were sad, melancholy and a bit fearful. At the same time I felt the emotions were going somewhere; it started as expressions of pure sadness and loneliness, later it somehow came full circle and I felt as if I had regained my place in the world. My mood had been one of isolation; the music enhanced that feeling at first, afterwards I felt understood and liberated because I am obviously not alone in sometimes feeling that way. The music enabled me to confront those feelings, delve deep in them and
overcoming them through the comfort of knowing they are universal. (30, female)

In line with these findings it has been reported before that music listening often serves more than one function at the same time (Van Goethem & Sloboda, 2011).

**Concluding Paragraphs on Categorization**

Based on our categorizing and coding of data, two overarching categories were formed that both contained several sub-categories. Information has been provided on how each function related to the selection of music and vice versa. Information has also been provided about how often certain categories were used and in which situations people typically had reported to listen to sad music to achieve a certain function, or in which situation people had typically used a selection strategy when available. In Table 1.1 an overview is provided on these findings.

Although the discussion of these categories already gives us some insight into why people sometimes listen to and select sad music when already feeling sad, it does not provide us a complete picture of the psychological processes that may guide sad music listening. In what comes next we will therefore also describe the psychological processes that may guide sad music listening by providing and discussing a model on this.

**Proposing a Model on Underlying Psychological Mechanisms for Self-Regulation with Sad Music**

To deepen our understanding of adults’ sad music listening behaviour we conducted axial coding (Corbin & Strauss, 1990; Strauss & Corbin, 1990) in order to develop a model on the psychological process that underlie sad music listening behaviour
and the effects this has on people. Please note the model in Figure 1.3. Findings on the processes shown in the model are discussed in the upcoming paragraphs.

**Description of the Model**

The model shows that several factors influenced each other in the psychological process that underlies sad music listening. For instance, if someone feels better or less bad as a result of music listening then this is partly due to either successfully realizing self-regulatory goals or misregulating self-regulatory goals. In line with observations from other studies (DeNora, 1999; Thoma et al., 2011), the model also shows that strategies by which people selected the music seemed partly influenced by the functions the music had to serve, whereas the functions that music had to serve were influenced by short- and long-term desired outcomes, which were again influenced by dispositional factors and situational factors. For example, when people had the goal to feel closer to people they missed, then they more often selected music that reminded them of the person they missed, whereas when people wanted to distract themselves from their negative feelings and thoughts, they did not very often select music that reminded them of something. These findings are in line with several studies that show that, when people choose music for self-regulatory purposes, then they are likely to use a music-selection strategy that serves the needs that they had in a particular situation (DeNora, 1999; Miranda & Claes, 2009; Saarikallio, 2010; Saarikallio & Erkkilä, 2007; Schäfer & Sedlmeier, 2009; Schwartz & Fouts, 2003; Sloboda & Juslin, 2001). DeNora (1999, p. 38) described this process as follows: ‘When respondents are choosing music as part of this care of self, they are engaging in self-conscious articulation work, thinking ahead about the music that will “work” for the purpose at hand’. Moreover, an example of how situational factors can influence people’s desires is that people who experienced love-
sickness are more likely to want support and empathy, whereas not as many people who merely feel alone have this desire. In addition, an example from our data collection of how dispositional factors could play a role in people’s desires was that relatively less people of older age listened to music for wanting to feel support or empathy. The findings that dispositional and situational factors play a role in music listening behaviour are in line with results described by Saarikallio and Erkkilä (2007) and Saarikallio (2010).

Changes in Affective States and Emotional Response to Music

The model shows that changes in affective states, such as either mood-enhancement, or intensifying feelings, such as feelings of sadness, can be achieved as a main self-regulatory goal or directly achieved as a result of the music listening, but that mood-enhancement and feeling worse can also be the result of achieving or not achieving desired outcomes. That is, mood-enhancement can be a direct result of listening to the music but, as shown previously, mood-enhancement may also be the result of achieving other functions such as cognitive reappraisal, and/or of having experienced a cathartic process during listening. Moreover, some people may sometimes feel worse when music listening did not help them in achieving their self-regulatory goals.

Very few respondents reported feeling worse after listening to music, and feeling sad as a result of listening was often mentioned as something positive, especially when the goal of music listening was to be in touch with feelings or thoughts. Moreover, several participants reported to have felt sadness while listening to their choice of sad music. Interestingly, feeling sad was usually their intention and was seldom described as a negative experience:
Sigur Rós, ‘Gítardjamm’ from the album ‘Heima’. Slow-tempo vocal with strings and guitar effects, sung in imaginary language. I listened to this in a hotel room on tour once in America and felt so incredibly alone. The singer seemed to be voicing, not even with intelligible words, but with the melody and his inflection, exactly what I was feeling inside. I listened to it three times and cried for almost 45 minutes. It was one of those moments when I really wanted to feel sad and so listening to this piece actually made me happy. (24, male)

The music made me feel happy about being sad. I know it is a contradiction but even though it made me sadder it was in a more positive way, it felt like it was okay to feel like that. (29, male)

Our model proposes that, when negative moods are experienced as something bad, these are either a by-product of a more predominant self-regulating strategy, or a result of unsuccessful self-regulation. However, not many examples of such failure in self-regulation were reported. The following example is one of someone who apparently had listened to sad music but had either experienced negative side effects or had an unexpected negative experience with the sad music listening:

[I] felt the need to wallow. If I couldn’t hold onto feelings of hurt and loss what feelings associated with her could I hold onto? [The music listening] made me feel even shittier for about two weeks then I realized I was being an idiotic stereotype and just moped around a bit after that. (22, male)

In sum, analysis of the responses of our participants showed that eventual affective changes as a result of listening to sad music did not always result immediately from the music listening, nor was it always the primarily-pursued goal, but in some occasions such changes rather followed from achieving other functions. Importantly, this
suggests that, in order to fully understand the process by which sad music listening can result in affective changes, it is critical to identify the more specific dynamics of the strategies and functions that may have played a role in this.

**Utilitarian paradigm**

Tamir, Chiu and Gross (2007) investigated the ‘utilitarianism’ paradigm that states that action is guided by the relative value of an action for optimizing positive outcomes and minimizing negative outcomes in the longer term. They argue that utilitarian considerations play an important role in emotion regulation. Based on findings underlying our model we would also like to theorize that choosing to listen to sad music can be explained by a utilitarian paradigm. Our findings indicate that mood-enhancement was not the most important immediate goal of listening, as has often been described in literature on music listening in general (Ter Bogt et al., 2010; Thayer et al., 1994). In line with findings by Izard (1990) and Keltner and Gross (1999), we observed that people described both pleasant and unpleasant emotions as helpful in certain situations. Moreover, music listening was important in order to experience the whole range of functions that emerged in our analysis of the responses.

**Conclusion**

We have discussed the ways in which listening to sad music is used by people after adverse negative events, and we reflected on the psychological values this may have. Our findings were based on an analysis of responses to an online survey which generated responses from 65 self-selected participants. We requested that people describe their sad music listening experiences and analysed these responses using a modified
CHAPTER 3: EXPLORING A RATIONALE

Grounded Theory method, creating substantial descriptive categories and an explanatory model of our findings.

The categories that emerged from the analysis resulted in discovering two groups or meta-categories. One group of categories describes the emergent self-regulation strategies served by music listening, and the other group describes the functions served by the music. The music-selection strategies were: connection; selecting music based on memory triggers; high aesthetic value; and message communicated. The functions were as follows: (re-)experiencing affect; cognitive; social; retrieving memories; friend; distraction; and mood-enhancement. The explanatory model we presented provided an overview of how different factors play a role in self-regulation, why sad music listening can be explained by a utilitarian paradigm, and it also proposed how sad music listening can result in affective change by, for instance, successful and unsuccessful self-regulation.

Contributions, Limitations, and Future Directions

We argue that the findings from this exploration provide the crucial starting point for subsequent investigation of the self-regulatory value of listening to self-identified sad music, an area of research that has only sporadically been investigated. More research is needed to extend the model, to provide more detailed information on the processes it elaborates, and to explore current results in a larger population. Current data provide a basis from which to undertake further in-depth exploration of this topic in the future. Future research could, for instance, aim to provide more insights about the strength of relationships between music-selection strategies and the functions that music serves and into more specific dynamics of the strategies and functions in order to better understand how affective changes can occur either as a direct or indirect result of sad music listening.
CHAPTER 3: EXPLORING A RATIONALE

In addition, research could examine the actual effects of music listening in a real life setting and how the achievement of self-regulatory goals relate to changes in affect, cognition, and behaviour. Our findings additionally invite future exploration and reflection concerning motivational states that influence the decision to listen to sad music after adverse events. Further in-depth exploration and wider ranging research is anticipated. Part of the follow-up research can additionally be conducted in the form of a sequential exploration, by means of conducting a quantitative follow-up of a qualitative study (Creswell, Plano Clark, Guttmann, & Hanson, 2003). Conducting research with such an approach can extend previous findings by providing insights in factors or components in the data, on how variables relate to each other, and can also be used to follow up on a larger sample in order to generalize results (Creswell et al., 2003).

We did not specifically focus on dispositional and situational factors here. However, several of the current findings and findings from related research indicate that these factors may play an important role in how people select their music and how they use music for self-regulatory purposes. For example, in a recent series of studies (Chamorro-Premuzic, Gomà-i-Freixanet, Furnham, & Muro, 2009) personality factors were related to why people use music in everyday life. Results of this research suggested that people who score high on ‘neuroticism’ more often use music for affect-regulation, that people who score high on ‘openness to experience’ more often use music for intellectual stimulation, and that people who score high on ‘extraversion’ more often use music as a background to other activities. Moreover, several other studies have also indicated that personality factors may play a role in people’s music preferences and selection (Miranda & Claes, 2009; Punkanen, Eerola, & Erkkilä, 2011; Rentfrow & Gosling, 2003; Vuoskoski & Eerola, 2011). Furthermore, age, gender, and cultural difference are
also factors that have been shown to have implications on people’s response to and
evaluation of music (Boer & Fischer, 2011; Lima & Castro, 2011; Maidlow, 1999;
Saarikallio, 2010). For example, older age has been associated with decreased recognition
of sad and scary emotional intent in music (Lima & Castro, 2011), but music listening
also becomes more important at older age (Saarikallio, 2010). As these results raise new
questions, it may be interesting to also investigate if different self-regulatory processes
are involved in different age cohorts for listening to sad music. Additionally, we only
included participants who were 18 years of age or older, thus ongoing exploration of the
role of music listening in childhood and adolescence is warranted to see whether similar
psychological processes underlie children’s self-regulatory sad music listening.

Examining the roles of dispositional and situational factors in relation to sad
music listening behaviour could provide many new and interesting insights on the current
findings about the use of sad music listening following adverse negative events. We
suggest that combining the value of in-depth detailed findings associated with qualitative
studies with the structural modelling available in quantitative approaches may be suitable
(Johnson & Onwuegbuzie, 2004; Tashakkori & Teddlie, 2002). This will ultimately
provide a converging perspective on the relations between people’s strategies for sad
music listening, its functions, and relevant situational or dispositional factors (Johnson &
Onwuegbuzie, 2004; Tashakkori & Teddlie, 2002).

Acknowledgements

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References Chapter 3


CHAPTER 3: EXPLORING A RATIONALE


CHAPTER 3: EXPLORING A RATIONALE


CHAPTER 3: EXPLORING A RATIONALE


CHAPTER 3: EXPLORING A RATIONALE


CHAPTER 3: EXPLORING A RATIONALE


Figure 1.1: A schematic overview of the relations between affect, emotions and moods.

**Affect (or Feeling States):**
Overarching term including emotions and moods

**Emotions:**
Reflect environmental states and cognitive appraisal and are often accompanied by physiological processes and facial expressions.

**Moods:**
Are in comparison to emotions: lower in intensity, usually longer lasting and less focused.
Figure 1.2:

A schematic overview of the relation between goals, strategies, and effects.

(Self-regulatory) Goals
The preferred outcome of the process of self-regulation (the preferred outcome determines what strategies are used)

(Self-regulatory) Strategies
Activities aimed at achieving self-regulatory goals.

(Self-regulatory) Effects
The actual outcome of the process of self-regulation.
Figure 1.3: Schematic overview of affective changes in relation to sad music listening strategies and functions.

**Figure 1.3:** Schematic overview of affective changes in relation to sad music listening strategies and functions.

Please note that the text in bold is of the categories that make up the model. Examples of what is described in the boxes are all given in smaller italic script. Please note that examples are only used to make the boxes more descriptive and more examples can be possible.
### Table 1.1: The Characteristics of Strategies and Functions

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Typical Related Functions</th>
<th>Popularity of Strategy</th>
<th>Typical Situation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Connection</strong></td>
<td>(Re-)experiencing affect, but other functions also reported</td>
<td>Very often reported</td>
<td>All kinds of situations but especially highly popular among break ups of relationships.</td>
</tr>
<tr>
<td><strong>Memory triggers</strong></td>
<td>Retrieving Memories and Social, but other functions also reported</td>
<td>Often reported</td>
<td>Missing someone, Death, Homesickness, Break up of relationship</td>
</tr>
<tr>
<td><strong>Message communicated</strong></td>
<td>Cognitive, but other functions also reported</td>
<td>Not very often reported</td>
<td>(No typical situation identified)</td>
</tr>
<tr>
<td><strong>Aesthetic value</strong></td>
<td>Distraction and Mood-Enhancement but other functions also reported</td>
<td>Not very often reported</td>
<td>All kinds of situations, situations relatively less stressful and more mundane.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Functions</th>
<th>Typical Related Selection Strategy</th>
<th>Popularity of Function</th>
<th>Typical Situation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(re-)Experiencing affect</strong></td>
<td>Connection, Memories, but other strategies also reported</td>
<td>Very often reported</td>
<td>All kinds of situations</td>
</tr>
<tr>
<td><strong>Cognitive</strong></td>
<td>All strategies reported</td>
<td>Often reported, especially in relation to experiencing common humanity</td>
<td>All kinds of situations</td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td>Memory triggers and Connection</td>
<td>Not very often reported</td>
<td>Missing someone, Death, Homesickness, Breaks up of relationship</td>
</tr>
<tr>
<td><strong>Retrieving Memories</strong></td>
<td>Memory triggers, but other strategies also reported</td>
<td>Very often reported</td>
<td>All kinds of situations, usually the result of first achieving other functions</td>
</tr>
<tr>
<td><strong>Friend</strong></td>
<td>High aesthetic value, but also Connection and related to this function</td>
<td>Not very often reported</td>
<td>All kinds of situations</td>
</tr>
<tr>
<td><strong>Distraction Mood-enhancement (usually indirect function)</strong></td>
<td>Message Music</td>
<td>Moderately often reported</td>
<td>All kinds of situations</td>
</tr>
<tr>
<td></td>
<td>High aesthetic value, but other strategies also reported</td>
<td>Often reported as the effect of music listening, somewhat less often reported as a reasons for listening</td>
<td>All kinds of situations</td>
</tr>
</tbody>
</table>
Open ended survey: Listening to sad music after adverse negative events.

People may listen to music for several reasons. We are interested in what negative circumstances people listen to sad music and what reasons they have for doing so. Please bring to mind an occasion or event in which you listened to sad music and try to remember what specific music you listened to. There are several questions listed below. Please answer to each of them, even if they may overlap to a certain extent.

*Think of a short name you can give that captures this event:*

**Title:**

*Below, please describe the situation that you were in when you listened to the sad music.*

**Situation:**

*Please describe the reasons why you listened to this sad music.*

**Reason(s) why:**

*Please describe what kind of sad music you listened to. For example, was it upbeat or calm, with or without lyrics etc.*

**Music:**

*Please describe the feelings and what you experienced when listening to this sad music.*

**My experience:**

*Please describe what the effect was of this sad music listening.*

**Effect:**
CHAPTER 3: EXPLORING A RATIONALE

If you have any further comments on this research, please feel free to mention them here.

Further comments:

Please provide the following information here:

Age:
Gender:
Nationality:

Thank you very much for participating in this research!

If you have any questions concerning this study, you can send an email to:

Annemieke.vandentol@ul.ie
Chapter 4

Listening to Sad Music in Adverse Situations: Music Selection

Strategies, Self-regulatory Goals, and Listening Effects.
CHAPTER 4: LISTENING TO SAD MUSIC

Abstract

Adults’ reported motivations for listening to sad music after adverse negative circumstances were examined through exploring how their music selection strategies related (a) to self-regulatory goals, and (b) to the effects of listening. It was next also investigated how these strategies, effects, and goals relate to mood-enhancement. The current research relied on quantitative data collection of 220 participants. Findings indicate that music choice is specifically linked to the identified goals of music listening, and the reported effects of the listening are related to the selection strategies. Additionally, if mood-enhancement is achieved as a function of music listening, this is often indirectly achieved by first experiencing other functions that music can serve, such as, cognitive reappraisal and distraction. Only the selection of music with perceived high aesthetic value was directly related to mood-enhancement when mediating effects of other functions were taken into account. Moreover, the selection strategy music with memory triggers was negatively related to mood-enhancement as a goal.

Keywords: Sad Music listening, Self-regulation, Negative Affective state, Mood-enhancement, Selection Strategies
CHAPTER 4: LISTENING TO SAD MUSIC

Introduction

People are typically quite successful in identifying the emotions that music is intended to portray. This has been found in a series of studies with different types of music and listeners (Bezdek & Gerrig, 2008; Kotlyar & Morozov, 1976; Balkwill & Thompson, 1999). Emotions portrayed by the music stem from the music structure, instrument choice, dynamics, volume, and the interpretation of the specific music performer (Gabrielsson & Lindström, 2001). Small fluctuations may, however, exist in the recognition of emotions in music as a function of dispositional factors, such as age (Lima & Castro, 2011) personality (Vuoskoski & Eerola, 2011), and personal memories (Janata, 2009). Nonetheless, the results of a review study (Juslin & Laukka, 2004) show that the general perception of emotions portrayed in music are robust, especially for happy and sad music.

The investigation of people’s music listening behaviour with sad music is a highly promising field. Peoples experiences of music listening and their motivations for choosing to listen to music are of interest to music therapists (Grocke & Wigram, 2007). Listening to music is proposed to have a positive effect when coping with adverse situations (Van den Tol & Edwards, 2011; Saarikallio & Erkkilä, 2007). Several recent studies provide evidence that people especially listen to sad music when experiencing adverse negative affective states (Hunter, Schellenberg, & Griffith, 2011; Saarikallio & Erkkilä, 2007; Schellenberg, Peretz, & Vieillard, 2008). For instance, a focus group study among 11 Finnish adolescents showed that when participants were sad or angry then they were more inclined to listen to sad music. This behaviour stemmed from their motivation
CHAPTER 4: LISTENING TO SAD MUSIC

to mentally work out problems, as a distraction from problems, or for expressing emotions and attain closure (Saarikallio & Erkkilä, 2007).

Definitions

The following definitions will be used in the current manuscript: People’s active conscious or unconscious use of goal-directed activities, such as listening to music for modulation of affect, thoughts, attention or behaviour, is referred to with the term regulation (Gross, 2001, 2007; Karoly, 1993). People’s active conscious or unconscious use of tools and goal-directed activities for self and affect-regulatory purposes is referred to with the term strategies (Karoly, 1993). The term self-regulation refers to regulation of all psychological processes and the term affect-regulation refers to the processes by which affect is regulated (Karoly, 1993; Gross, 2001, 2007). The definition strategy refers to the psychological processes that people engage in to reach their goals (Karoly, 1993). In the current manuscript the term strategies will mainly be used to refer to the music selection strategies that people engage in. The terms goals or self-regulatory goals will be used in the current manuscript to refer to the psychological gains that people are aiming to achieve through music listening. The term effect will be used to refer to the initial outcome of the self-regulatory music listening that people engage in. Whereas the term function will be used as an overarching definition to refer to both the self-regulatory goals and effects that music listening can serve (Laukka, 2007; Saarikallio & Erkkilä, 2007; Schäfer & Sedlmeier, 2009; Van den Tol & Edwards, 2011). In other words, the term function refers to the potential psychological qualities for which music listening can be used, either intentional or unintentional. An example is provided: The selection of ones favourite music (strategy) in order to relax and distract the self from thoughts about work at the end of a long day (goal) probably also often results in feeling relaxed and not
CHAPTER 4: LISTENING TO SAD MUSIC

thinking about work (effect). In this example, the function of the music is to feel relaxed and to stop thinking about work. When, as a result of listening, the goal (such as feeling relaxed) is achieved, the effect of listening is similar to the goal.

The terms affect, feelings, and feeling states are overarching terms to refer to emotions and moods. Emotions usually have a clear cause and are reflecting cognitive appraisals and environmental states and are often high in intensity and accompanied by physiological processes and expression (Gross, 2001, 2007; Larsen, 2000). Moods usually do not have a clear cause and do not usually reflect cognitive appraisal and environmental states. Moreover, moods are generally longer lasting, less focussed, and lower in intensity than emotions (Gross, 2001, 2007; Larsen, 2000).

In the current research their will be focussed on self-identified and self-selected sad music. The term self-identified sad music refers to music that has been identified to sound sad from the perspective of the listener (chapter 1, 2, 3). The term self-selected sad music refers to music that has been identified to sound sad from the perspective of the listener and which the participants has actively decide to listen to (chapter 1, 2, 3). Please note that this definition is different to the definition of sad music that is sometimes used in other music research, in which the sad music has been identified by the researcher according to prototypical features (Gabrielsson & Lindström, 2001; Juslin & Laukka, 2004; Khalfa, Roy, Rainville, Dalla Bella, & Peretz, 2008) that are commonly prevalent in sad music.

Motivations to Listen to Sad Music When Feeling Sad

In a recent study that was designed to explore people’s motivations to decide to engage in listening to self-selected sad music when feeling sad, sixty-five adults who volunteered through online recruitment self-reported on their experiences with listening
CHAPTER 4: LISTENING TO SAD MUSIC

to self-selected sad music when feeling sad (Chapter 3; Van den Tol & Edwards, 2011). The narratives that were gathered from these participants were coded and categorized to generate theory using a modified form of Grounded Theory (Van den Tol & Edwards, 2011). The theory generated by this research indicates that self-selected sad music is selected by a variety of different music selection strategies and that listening to sad music provides adults with a variety of important functions that support coping when experiencing adverse events.

The emerging selection strategies included the strategies of: Connection, meaning selecting music because the music portrays affect or has lyrics that the listener can identify with at that moment. Memory Triggers, referring to the selection of music because the music is associated with specific episodic memories. High Aesthetic Value, which involves selecting the music because one perceives the music to be ‘good’ or ‘beautiful music. Finally, Message Music, which implies selecting music because one wants to be inspired by message that the music communicates (Van den Tol & Edwards, 2011).

The functions of listening to self-selected sad music that emerged in the analysis were: (Re-)experiencing Affect, which means getting in touch with or intensifying affective states. Social, reflecting that one tries to feel closer or emotionally connected to people. Mood-enhancement, which involved making one feel better or less bad. Retrieving Memories, which means retrieving episodic memories associated with the music. Cognitive, which refers to the use of music for cognitive reappraisal. Friend, which means that the music can serve as a symbolic friend. Distraction, which refers to the use of music for distraction and keeping the mind of from unwanted feeling and thoughts (Van den Tol & Edwards, 2011).
CHAPTER 4: LISTENING TO SAD MUSIC

In addition to these findings, these researchers also discussed how different factors have to be taken into account in order to explain people’s sad music motivations. In line with suggestions on the processes involved in self-regulatory music listening (DeNora, 1999; Lonsdale & North, 2011; Saarikallio & Erkkilä, 2007; Thoma, et al., 2011) it was observed that particular strategies for selecting sad music were more often mentioned as effective for achieving certain specific functions (Van den Tol & Edwards, 2011).

Music and Affect-Regulation

There is a growing interest in the psychological investigation of music listening behaviour. In a recent study in which people were asked to report their music listing behaviour over a period of days it was found that participants were consciously trying to regulate their affect in 282 of 500 (56.4%) music listening episodes (Van Goethem & Sloboda, 2011). Results of several other studies also suggest that reasons for listening to music are for a great extent guided by the effect that music has on affect (Juslin & Västfjäll 2008; Laukka, 2007; Lonsdale & North 2011; Saarikallio & Erkkilä, 2007; Schäfer & Sedlmeier, 2009; Schwartz & Fouts, 2003; Sloboda, O'Neill & Ivaldi, 2001; Van Goethem, 2010).

Two correlational studies have recently been conducted to investigate how people regulate their moods and thoughts in everyday life. Results of these studies indicated that when people could choose a variety of other options among which were; reading a book, watching TV or a film, and eating, then music listening was the most often used and the most effective strategy for regulation of affect and cognitions. In comparison to several other options, music listening was rated as most often used for distraction, disengagement, venting, feeling pleasant, reducing tension, coping, and for suppression
and denial (Van Goethem, 2010, p. 87). Similarly, Thayer, Newman, and McClain, (1994) reported that among a variety of activities that included taking a shower, getting some fresh air, doing something to keep busy, napping, and drinking coffee, listening to music was rated as the most effective tactic for feeling energized.

**Music and Self-Regulation**

A series of recent studies has investigated the psychological functions that music listening can serve. These studies were conducted among participants of different age groups with a variety of different research methods. Overall, important functions of music appear to be: to change, maintain, or reinforce affect, moods and emotions; for relaxation; for reminiscence; as trigger of nostalgia; for feeling closer to people; to seek, express, and confirm identity; for distraction or diversion; for mental work or cognitive reappraisal; for stimulating cognitive effects; for managing and satisfying arousal levels; and for physical activation (Chen, Zhou, & Bryant, 2007; Knobloch & Zillmann, 2002; Saarikallio & Erkkilä, 2007; Schwartz & Fouts, 2003; Schäfer & Sedlmeier, 2009; Sloboda, Lamont, & Greasley, 2009; Lonsdale & North, 2011; Thayer, Newman, & McClain, 1994; Van Goethem, 2010; Van Goethem & Sloboda, 2011).

There are strong indications that people use different strategies to select music for self-regulation depending on which goals they are pursuing in a specific situation (DeNora, 1999, Lonsdale & North, 2011; Saarikallio & Erkkilä, 2007; Thoma, et al., 2011). For example, Van Goethem and Sloboda (2011) argue that when people select music for coping reasons then music selection is often motivated by the memory triggers inherent to certain music. These findings are in line research by Van den Tol and Edwards (2011) who observed that *memory triggers* play a relatively more important role for selecting music when feeling sad than was observed for music listening in general.
More specific, in a study by Juslin and Laukka (2004) in which participants were asked to report reasons for listening to music, it was shown that 47% of music episodes stemmed from emotional reasons whereas only 4% of participants said to have listened to music as strategy to evoke memories. For sad music in particular, though, retrieving memories may play a much more prominent role than for music listening in general (Van den Tol & Edwards, 2011). Notwithstanding this suggestive evidence, no research has directly tested how the most commonly used music selection strategies are used in terms of the achievement of self-regulatory functions that music can serve.

It has additionally been assumed that self-regulatory aims of music are not only regulated through the selection of specific music, but that music listening can also indirectly result in mood-enhancement and that some people try to achieve mood-enhancement by first pursuing other functions (Van den Tol & Edwards, 2011; Saarkilio & Erkkilä, 2007; Van Goethem, 2010; Van Goethem & Sloboda, 2011). It however still remains unclear which specific functions of music can be used most effective for achieving mood-enhancement.

**Mechanisms Involved in Self-Regulation**

In order to understand the relation between self-regulatory strategies and self-regulatory goals it is important to understand the dynamics of self-regulation (Baumeister & Vohs, 2004; Kruglanski, et al., 2002). People’s goals are often represented hierarchically, meaning that the achievement of high level goals (e.g., long-term or overarching goals) is often accomplished through the pursuit of more specific goals, also termed short-term goals or sub-goals (Baumeister & Vohs, 2004; Kruglanski, et al., 2002). For example, in order to complete a jigsaw puzzle (high level goal) one may first aim at completing the edge of the puzzle (sub-goal). As outlined in the previous
CHAPTER 4: LISTENING TO SAD MUSIC

paragraphs, it has been suggested that this is also often the case when people aim to experience *mood-enhancement* when regulating one’s psychological state with music (Van den Tol & Edwards, 2011; Saarkilio & Erkkilä, 2007; Van Goethem, 2010; Van Goethem & Sloboda, 2011). To give an example, people may sometimes when feeling lovesickness listen to music with lyrics about a similar situation (music selection strategy) in an attempt to feel that lovesickness is something that all people experience sometimes (direct function of the music and low level goal). Later, however, they may experience mood-enhancement as a result of reframing their thoughts (indirect function of the music & high level goal). In the current study a distinction will been made between goals that can be achieved relatively directly by listening to music which will be called ‘direct goals’ and goals that are accomplished through the achievement of other (direct) goals rather than as an immediate result of listening to music called ‘indirect goals.’

**Self-Regulation and Mood-Enhancement in Everyday Life**

Research on self-regulation shows that in comparison to all other available strategies, cognitive re-appraisal and behavioural diversion (e.g. listening to music to distract the self of problems) or distraction are usually found to be the most effective strategies to reduce negative affect (Totterdell & Parkinson, 1999) and to feel better (e.g. Kross, Ayduk, & Mischel, 2005; Hayes, et al., 2010). Both of these self-regulatory strategies to achieve mood-enhancement have been observe to be possible to achieve through self selected sad music listening when feeling sad (Van den Tol & Edwards, 2011). It is therefore very likely that these functions may also play a role in listening to sad music aimed at mood-enhancement.
CHAPTER 4: LISTENING TO SAD MUSIC

The Next Step in Understanding Self-Regulatory Sad Music Listening

Prior research suggests that musical activities or music selection strategies follow from the functions that music can serve (Van den Tol & Edwards, 2011; DeNora, 1999; Saarikallio & Erkkilä, 2007; Van Goethem & Sloboda, 2011). However, even though suggestions have been made about the music selection strategies that exist and about the different motivations for people’s sad music listening behaviour when feeling sad (Van den Tol & Edwards, 2011), their still remains a lot of question in relation to people’s sad music listening motivations. For example, little is still known about people’s motivations to use each specific music selection strategy for selecting sad music, about how these selection strategies relate to the achievement of the self-regulatory music listening goals, or about how important each inherent function that sad music listening can serve is in relation to explaining the popularity of listening to sad music when feeling sad. It also still remains relatively unclear what psychological processes motivate people to engage in sad rather than happy music when they are having the goal to experience mood-enhancement? Thus, investigating sad music selection from such a self-regulatory perspective is important to examine how motivations to listen to sad music when feeling sad are guided by different psychological processes than music listening in general.

A handful of studies have indicated that people sometimes experience positive affect in response to hearing sad music (Garrido & Schubert, 2010; Schubert, 2006; Kallinen & Ravaja, 2006). Yet no research has investigated why people can experience pleasant emotions or mood enhancement as a reaction to sad music when feeling sad from a self-regulatory perspective. Investigating positive emotional response to sad music from a self-regulatory perspective is important as people in everyday life are consciously engaged in their decision to listen to music (Van Goethem & Sloboda, 2011). People
decide to listen to certain self-selected music as they have certain expectations about what the music can mean to them in respect to their self-regulatory goals (Van den Tol & Edwards, 2011; DeNora, 1999; Saarikallio & Erkkilä, 2007; Van Goethem & Sloboda, 2011). Hence people’s positive emotional response to music is not just related to the emotions that certain music portrays (Juslin & Västfjäll, 2008), or to the familiarity or complexity of the music (Ladinig, & Schellenberg, 2011; North & Hargreaves, 1995) or arousal response to music (Schubert, 2010), but may also be explained by a lot of other psychological processes that have not yet been taken into account. People’s positive reaction to music may for instance be explained by the opportunity that music provides to reappraise ones thoughts, or distract the self, or by the successful or unsuccessful realisation of self-regulatory goals (Van den Tol & Edwards, 2011). Investigating positive emotional responses to sad music as a result of self-decided music listening in relation to self-regulatory goals and effects is hence important for understanding people’s everyday life involvement in music listening.

**Aim of the Current Research**

The aim of the current research was to contribute to a better understanding of people’s selection of self-identified sad music after experiencing adverse emotional events. The present study was aimed at extending insights on sad music listening when feeling sad with a specific focus into the dynamics between music selection strategies, self-regulatory goals, the effects of music listening and mood-enhancement.

The current research was aimed at identifying a distinct group of strategies that are used to select sad music when feeling sad, and functions that sad music listening can serve when feeling sad. These groups of strategies were identified in order to compare these on average agreement across people in order to find out which of these strategies
CHAPTER 4: LISTENING TO SAD MUSIC

and functions are most important in relation to sad music listening behaviour when feeling sad. Next, people’s motivations to use a specific music selection strategy for selecting sad music in order to achieve specific goals were related to each other and the effect of music listening are related to the music selection strategies. This has been done in order to get a better perspective on which strategies are most effective for achieving which functions. Finally, as it also still stays relatively unclear how people can experience mood-enhancement as an effect of sad music listening (Van den Tol & Edwards, 2011) this has hence also been investigated as part of the current research.

Predictions

Based on literature several predictions could be made regarding the findings in the current research. An overview of these predictions is provided in the paragraphs below. A schematic overview of all these predictions is provided in Figure 2.1.

Structure of the Data

Regarding the structure of the data in the current research it was predicted that a distinction of goals, effects, and strategies would be found relatively similar to findings of the previous research on sad music listening when feeling sad (Chapter 3; Van den Tol & Edwards, 2011). Components of items were expected in the data that would represent the functions and strategies of sad music as discussed in the previous paragraphs. It was expected to find the following music selection strategies Connection; Memory Triggers; High Aesthetic Value; Message Music, and the following music functions (Re-)experiencing Affect; Social; Mood-enhancement, Retrieving Memories; Cognitive; Friend; Distraction.

Investigating the statistical grouping of these functions and strategies provides new perspectives on the extent to which music selection strategies and self-regulatory
goals and functions are guided by distinct psychological processes. Moreover, in order to investigate several of the other research questions it was important to form several groups of related items in the data that represented a specific function or strategy.

**Importance of Goals, Effects and Strategies**

Based on earlier findings on people’s motivations for self-regulatory music listening (DeNora, 1999; Juslin & Laukka, 2004; Lonsdale & North, 2011; Saarikallio & Erkkilä, 2007) it was expected that (re-)experiencing affect would be rated the most important function of listening to sad music when feeling sad. It was additionally predicted that retrieving memories would be an important function for listening to sad music, and that mood-enhancement would be somewhat less important than both of the functions of re-experiencing affect and retrieving memories (Van den Tol & Edwards, 2011). The functions of music listening for distraction, to engage in cognitive reappraisals, or music as a friend are not usually mentioned as being important reasons for listening to music (DeNora, 1999; Juslin and Laukka, 2004; Lonsdale & North, 2011; Saarikallio & Erkkilä, 2007; Van Goethem, 2010). It was hence expected that these three functions would all score relatively low on averaged agreement for listening to sad music when feeling sad.

Regarding the importance of music selection strategies in the process of selecting specific sad music when feeling sad it was predicted that connection and memory triggers would be the most important selection strategies and high aesthetic value and message music would be the least important strategies. The expectation that connection is an important music selection strategy is in line with findings from a variety of studies that argue that music is usually selected based on current mood rather than based on target mood (Hunter, Schellenberg, & Griffith, 2011; Saarikallio & Erkkilä, 2007; Saarikallio,
CHAPTER 4: LISTENING TO SAD MUSIC

2010; Schellenberg, Peretz, & Vieillard, 2008). This expectation is additionally in line with a variety of studies that show that music is often selected based on momentarily identification with the lyrics (Gibson, Aust, & Zillmann, 2010; Schwartz & Fouts, 2003). Moreover, the expectation that the selection strategy connection would be more important for choosing music than the strategy of high aesthetic value is broadly in line with findings from a recent study which suggest that daily music listening is rather guided by situational needs and goals than by people’s long term favourite music (Lamont & Webb, 2009). In line with earlier findings on music listening behaviour for coping purposes (Van Goethem & Sloboda, 2011) it was expected that music selection based on using a memory trigger strategy would be important when selecting music when feeling sad. The expectation that the strategy message music would only play a minor role in the selection of sad music was in line with findings of Van Goethem and Sloboda (2011) that ‘content of music’ is less important for the selection of music for affect regulation than ‘emotions of music’ or ‘memories.’

**Relations Between Strategies and Functions**

The general expectation regarding the correlations between functions and strategies was that certain music selection strategies would be more effective than others for pursuing certain goals and that people fit their music selection to the goals they pursue. This prediction follows from a series of studies on music listening behaviour suggesting that the people’s music selection strategies are guided by their self-regulatory goals (Chapter 3; DeNora, 1999; Saarikallio & Erkkilä, 2007; Schäfer & Sedlmeier, 2009; Schwartz, & Fouts, 2003; Sloboda, Lamont, & Greasley, 2009; Thoma, et al., 2011; Van den Tol & Edwards, 2011; Van Goethem & Sloboda, 2011;).
It has been observed that stimuli that are perceived to have *high aesthetic value* generate sensory pleasure (Hekkert, 2006) and that subjectively pleasant music can result in activity in brain areas that are associated with reward and inhibition of displeasure (Menon & Levitin, 2005; Schubert, 1996). It was therefore expected that a *high aesthetic value* selection strategy would especially yield a strong correlation with mood-enhancement.

Based on previous findings on sad music listening it was expected that the selection strategy *high aesthetic value* would strongly relate to distraction. Specifically, when people listened to sad music while they simultaneously had the aim to distract the self from problems they most often selected music that they perceived to have *high aesthetic value* (Van den Tol & Edwards, 2011).

Juslin and Västfjäll’s (2008) suggested that part of the affective reaction that people have in response to music can be explained by a process called ‘emotional contagion’ referring to mimicking and subsequently experiencing the affect portrayed by the music. In line with these findings and with research that shows that people strategically select music in order to induce certain emotions (e.g. Knochbloch & Zillmann, 2002) it was expected that the strategy *connection* would especially correlate strongly to the function *(re-)*experiencing affect. Moreover, research shows that music with memories triggers can be used for retrieving memories (Baumgartner, 1992) but also to experiencing emotions in relation to these memories (Baumgartner, 1992; Juslin & Västfjäll, 2008). It was therefore expected that selecting music based on memory triggers would strongly correlate to the function of experiencing memories but that there would additionally be a relatively strong correlation between memory triggers with the function *(Re-)*experiencing affect.
Previous research suggests that selecting music with memory triggers most often serves to feel closer to people that are missed, but also serves to experience nostalgia, to strengthen feelings of sadness when loss is experienced, or to emotionally cope and accept feelings (Van Goethem & Sloboda, 2011; Van den Tol & Edwards, 2011). Moreover, inducing happy emotions through music may only have played a minor or indirect role of self-regulatory sad music listening when music is selected with a memory trigger selection strategy (Baumgartner, 1992; Juslin & Västfjäll, 2008; Van den Tol & Edwards, 2011). It was therefore expected that there would also be a strong relation between the selection strategy memory triggers and the function social, but that there would not be a very strong correlation between the selection strategy memory triggers and the function mood-enhancement.

The imaginary friend that music can be is often described as being empathising, comforting, supporting, and accepting (DeNora, 1999; Saarikallio & Erkkilä, 2007) it was therefore expected that people would select music with which they can identify, or in other words use a connections music selections strategy when they want the music to be functioning as a friend.

Finally, although not much is knows about how message music would relate to each functions, it has been claimed that people often listen to lyrics of the song to learn from them and use the music for cognitive reappraisal (Van Goethem, 2010; Saarikallio & Erkkilä, 2007). It was therefore expected that the strategy message music would yield a strong correlation with the function cognitive.

Relations Between Strategies, Functions and Mood-Enhancement

Research on self-regulation shows that engagement in cognitive re-appraisal and behavioural diversion (e.g. listening to music to distract the self of problems) or
distraction are the most effective ‘behavioural’ strategies in order to enhance mood (Hayes, et al., 2010, Kross, Ayduk, & Mischel, 2005; Totterdell & Parkinson, 1999). In line with these findings it was predicted that both the functions cognitive and distraction would play important roles in the indirect achievement of mood-enhancement through music listening. Previous research shows that the memories that are recalled when feeling sad are often functioning to strengthen feelings of sadness when loss is experienced or to feel closer to people who are missed, and are used as a form of emotional coping in order to take some time to accept a situation before being able to move on (Van den Tol & Edwards, 2011). It is therefore expected that retrieving memories will not play an important role in indirect mood-enhancement. Similarly the function of music being a friend is also not expected to contribute to mood-enhancement as the imaginary friend that music can be is often described as being empathising, comforting, supporting, and accepting as opposed to helping people to cheer up or feel better (DeNora, 1999; Saarikallio & Erkkilä, 2007).

In addition to the above it was also predicted that whether mood-enhancement performs a direct function depends on what music selection strategies are used. There is a growing interest in the difference between perceived and experienced emotions when listening to music (Gabrielsson, 2002; Kallinen & Ravaja, 2006; Salimpoor, et al., 2009; Zetner, Grandjean, & Scherer, 2008). Schubert (2007) argued that part of the difference between expressed and experienced emotions can be explained that people prefer the experience of intense emotions in music, regardless of whether it has a positive or a negative valence. The liking of the music can in turn induce a positive affective experience. Other research also suggests that people experience more positive emotions when listening to sad music than they perceive are portrayed (Kallinen & Ravaja, 2006).
It is also known that listening to sad music can activate neural pathways that are involved in reward (Blood & Zatorre, 2001). In an extension of the theory proposed by Schubert (2007) and in line with findings that high aesthetics in design generates pleasure (Hekkert, 2006) it is expected that the liking of music plays a positive role in positive affect experienced as a result of music. Moreover this is predicted to occur even if the functions than can be achieved by music listening do not play a role in mood-enhancement. It was thus predicted that when sad music is selected based on a high aesthetic value music selections strategy then mood-enhancement may also be a direct function of the music listening.

**Methods**

**Procedure and Measurements**

Participants were recruited by email invitations through the University email system and by invitations to participate on this study placed on several forums on the internet. These forums were mainly social science research networks and a few forums in relation to music listening. The invitation for this study stated that University researchers were looking for participants to volunteer in a study that was conducted in order to investigate people’s motivations to listen to sad music when feeling sad. The invitation included a link to the website on which the study was conducted. The website on which the study was conducted provided a detailed information sheet, a consent form, and the actual study. After giving their informed consent, participants were asked to think back of an adverse emotional event after which they had listened to music that portrays sadness. Gender, age, personality, personal history and cultural background have all been found to affect individual responses to music and evaluation of the music (Boer & Fischer, 2011; Chen, Zhou & Bryant, 2007; Chamorro- Premuzic & Furnham, 2007; Janata, 2009; Juslin
CHAPTER 4: LISTENING TO SAD MUSIC

& Västfjäll, 2008; Lima & Castro, 2011; Lavond & Steinmetz, 2003) it was therefore deemed important to focus on sad music from the perspective of the listener rather than defining sad music. After thinking of an adverse emotional event after which participants had listened to sad music they were asked to rate several statements on an interval scale based on their experiences of the sad music listening. The structural modelling available in quantitative research makes it possible to evaluate complex hypotheses on relationships between variables (Creswell, et al., 2003), such as on the relationship that direct and indirect functions play in eventual mood enhancement after listening to sad music when feeling sad. The content of these statements was based on insight on the processes that are relevant in relation to understanding music listening behaviour (DeNora, 1999; Saarikallio, 2010; Saarikallio & Erkkilä, 2007; Schäfer & Sedlmeier, 2009; Schwartz, & Fouts, 2003; Sloboda, Lamont, & Greasley, 2009; Thoma, et al., 2011; Van den Tol & Edwards, 2011; Van Goethem, 2010; Van Goethem & Sloboda, 2011). Participants were asked to rate these statements on a 5-point interval scale ranging from 1 (I do not agree with this at all) to 5 (I very much agree with this). To decrease error a ‘not applicable’ option was added to this interval scale.

First, participants completed several questions relating to each of the previously noted strategies they had used for selecting the music. (e.g., “I chose to listen to the sad music because the music contains lyrics that communicated hope.”). Next, participants completed questions related to self-regulatory goals they wanted to achieve as a result of listening to the sad music. (e.g., “The reason I listened to the sad music was to bring back memories.”). Participants also completed questions related to effects of listening (e.g., “Listening to the sad music brought back memories”). After rating all statements, participants provided information about age, nationality, and gender. Finally, participants
were thanked for their participation and were provided with a comment box for any additional information that they wanted to share and a contact email-address of the first author which they could use if they had any questions about the research.

We checked for participants’ level of attention by using two attention check items that explicitly instructed participants how to rate them; these items were placed in the middle and at the end of the questionnaire. Participants who failed to provide the correct answer to these attention checks were dropped from the sample. Questionnaires of participants who missed more than 5 statements, or who had selected the ‘not applicable’ option more than 5 times were dropped from the sample. A missing value analyses was conducted on the dataset to be able to also use the responses of participants from which some data was missing (Tabachnick & Fidell, 2007).

**Participants**

A total of 220 adults volunteered to participate in this study, of which 135 females, 80 males, and 5 participants who did not indicate their gender. Participants’ ages ranged from 18 to 69 ($M = 28.30$ $SD = 11.51$). The data contained responses of participants from 26 different nationalities; 74 were Caucasians from the USA, 38 were Irish, 24 were Dutch, 12 were British, 10 were African-Americans from the USA, 9 were Australian, 8 were Canadian, 6 were Greek, 3 were Malaysian, 3 were Belgian, 22 people indicated having another nationality, and eleven participants did not report their nationality.

**Analyses and Results**

**Structure of the Data**

Three statistical analyses that are commonly used group items together based on their degree of co-variation are; explorative factor analyses, principal component analyses, and confirmatory factor analyses. For the current research we were interested in
exploring how the earlier identified groups of categories (van den Tol, & Edwards, 2011) would be represented statistically. Thus, the aim of grouping items together was not to confirm the groups of items that had earlier been formed based on conceptual similarity, but to rather explore these conceptual similarities statistically. The aim of these analyses was to get a broader perspective on how the different reasons for listening to self-identified sad music and selection strategies that people use for selection self-identified sad music would group together based on statistical correlation. As such, confirmatory analysis was not relevant for the aims of the current research, as with confirmatory factor analysis the researcher conducts its analyses by testing how pre-decided groups of items group together instead of that the researcher lets the statistical analysis explore the data (e.g., Tabachnick & Fidell, 2007). The difference between explorative factor analysis and principal component analysis is that principal component analysis delivers an outcome of groups of items that are correlated less strongly than the groups of items that are produced by factor analysis (Suhr, 2005). One of the aims of producing groups of items was to use these groups of items for multiple mediation analysis. Multiple mediation analysis needs its items to have low multi-co-linearity or in other words to be as unrelated with each other as possible (Ezekiel & Fox, 1959, p. 283-284). It was for this reason that principal component analysis was found more suitable for the goals of the current research than factor analysis. Principal component analysis makes use of rotated solutions for the interpretation of groups of items (Tabachnick & Fidell, 2007). Several forms of rotations are possible when conducting principal component analysis. In this specific case it was decided to employ a varimax rotated solution as this is the best technique for findings groups of items with relatively low multi-co-linearity in principal component analysis (Hair, Anderson, Tatham, & Black, 1998; Tabachnick & Fidell, 2007). Items that
loaded higher than 0.45 on more than one component were removed from the analyses and new analyses were conducted with the remaining items until several distinct components occurred. This process allows researchers to again decrease multi-collinearity and is a commonly used approach for trying to find distinct components when applying a principal component analyses with a rotated varimax solution (Tabachnick & Fidell, 2007). A total of five principal component analyses were conducted. One of these analyses explored the groups of items for strategies, two analyses were conducted for direct functions (goals and effects) and two analyses were conducted for indirect functions (goals and effects).

The first two analyses which explored groups of direct functions largely confirmed the proposed groups of categories on direct goals and direct effects. A categorization of five distinct direct goals and five distinct direct effects was indicated (see Table 2.1 and 2.2) these groups of items were relatively similar to the description of earlier proposed categories by Van den Tol and Edwards (2011). These functions were labelled (re-)experiencing affect (AFFECT), memories and feeling closer to others (MEM-OTH), distraction (DIS), cognitive (COG), and friend (FRIEND). Different from past exploratory research, the items that represented the categories retrieving memories and social only represented one component which was called memories and feeling closer to others. This was not very surprising, however, as in the former research it was already noted that these functions had some overlap and that often people retrieve memories of loved ones (Van den Tol & Edwards, 2011).

The principal component analyses confirmed the proposed grouping of categories on indirect goals and indirect effects. As expected, one component was found in both analyses; the items of this component reflected the description of the category mood-
enhancement (see Table 2.3 and 2.4) and was therefore called; mood-enhancement (MOODENH).

The principal component analysis on strategies also largely confirmed the proposed categorization of music selection strategies. Four distinct music selection strategies were proposed, but the items belonging to the earlier proposed music selection strategies connection and memory triggers were grouped together in one component (see Table 2.5). This probably indicates that even though the strategies connection and memory triggers are based on different psychological rationale (Van den Tol & Edwards, 2011) people may often use both strategies at the same time. The components for selection strategies were called connection and memories (CON-MEM), high aesthetic value (AEST), and message music (MES) (see Table 2.5).

**Importance of Goals, Effect, and Strategies**

One aim of the current research was to compare the relative importance of the groups of self-regulatory goals, effects, and music selecting strategies. For that purpose, aggregated variables were created for each goal, effect, and strategy based on the emerged categories. We decided to divide the component on connection and memories in two groups of variables, one that represented the strategy connection and one that represented the strategy memory triggers. This was decided as we were interested in the specific behaviour of both these strategies and as we believed that even though the strategies ended up in one component they do represent distinct psychological processes. The mean scores were used as an indicator of how important each music selection strategy, effect, and goal were according to people’s sad music listening behaviour.

Consistent with our prediction, (re-)experiencing affect (GO-AFFECT) was on average rated as the most important goal across participants, directly followed by
retrieving memories and feeling closer to others (GO-MEM-OTH), mood-enhancement (GO-MOODENH) was the third most important self-regulatory goal (see Table 2.6). All other goals were rated lower in importance. Specifically, Distraction (GO-DIS) scored fourth, the cognitive (GO-COG) self-regulatory goals scored fifth, and the use of music as a friend (GO-FRIEND) scored least important across participants.

Similarly, it was found that (re-)experiencing affect (EF-AFFECT) was rated as the most important self-regulatory effect, directly followed by the effect of retrieving memories and feeling closer to others (EF-MEM-OTH). Mood-enhancement (EF-MOODENH) was rated as the third most important self-regulatory effect across participants. Of all other self-regulatory effects music as a friend (EF-FRIEND) scored highest, then cognitive (EF-COG) effects and the lowest aggregated mean score was found for the effect of music listening in order to distract (EF-DIS) from problems.

In addition to the above, it was found that participants most often used the strategy memory triggers (MEM) when selecting sad music when feeling sad, and also often used the strategy connection (CON; see Table 2.7), as was predicted. Moreover, it was also found that the strategy high aesthetic value (AEST) and message music (MES) were both less popular when people were choosing to select sad music when feeling sad.

Relations Between Strategies and Functions

Regression analyses were conducted to investigate how self-regulatory goals and how self-regulatory effects related to music selection strategies. Throughout these analyses, one self-regulatory effect or goal was each time entered as a dependent variable and one of the music selection strategies was entered as an independent variable (see Table 2.8).
The results of the regression analyses showed that all but one music selection strategies were significantly correlated to each direct self-regulatory goal and self-regulatory effect. The only non-significant relationship was found between using a high aesthetic value music selection strategy and the self-regulatory goal memory and feeling closer to others (see Table 2.8). In line with our predictions, it was found that the strength of these relationships varied considerably. Findings on goals and effect yielded relatively similar relationships with strategies: connection correlated strongest with (re)-experiencing affect, the music selection strategy memory triggers correlated strongest with the function memory and feeling closer to others, but also related relatively strong to (re-)experiencing affect. It was also found that the strategy message music yielded the strongest correlation with the function cognitive, and that selecting music with a high aesthetic value selection strategy yielded the strongest correlation with mood-enhancement but also related relatively strong to distraction (see Table 2.8).

**Relations Between Strategies, Functions and Mood-Enhancement**

Multiple-mediation-analysis is a statistical test that is commonly used to explore potential direct and indirect relationships between variables (Preacher & Hayes, 2004, 2008). Hence, multiple-mediation-analyses were conducted in order to investigate to what extent mood-enhancement was a direct or an indirect function depending on which music selection strategies are used and to also investigate by which functions mood-enhancement can be mediated. These analyses were conducted with either one of the music selection strategies as an independent variable, with the direct goals or the direct effect as mediating variables, and with either mood-enhancement as a goal or as an effect as a dependent variable (see Figure 2.2 through 2.9 for a graphic overview on the results, including their numerical values).
CHAPTER 4: LISTENING TO SAD MUSIC

In line with our expectations it was observed that the (direct) functions cognitive (COG) and distraction (DIS) played a significant mediating role in the relationship between music selection strategies and mood-enhancement, for the analyses of each strategy and both for goals and for effects.

In addition, it was observed that the relationships between mood-enhancement and music with high aesthetic value (AESTH) remained significant after the analyses had controlled for the correlation of the mediating variables. These results were similar both for the analyses on goals and on effects. Findings indicated that the relationship between mood-enhancement and using a high aesthetic value selection strategy can be explained as being both a direct result of the music listening and as an indirect effect that is mediated by other functions.

When the mediating roles of direct goals were taken into account, then a reversed relationship was observed for the selection of music with a memory triggers (MEM) and having the goal (but not for the effect) of mood-enhancement (GO-MOODENH). The direct goals that significantly mediated the goal of mood-enhancement when music was selected with a memory triggers selection strategy were; distraction (GO-DIS), memory and feeling closer to others (GO-MEM-OTH) and cognitive (GO-COG). These findings suggest that when people do not have any of psychological reasons for doing so, most people expect to feel worse as an effect of listening to sad music that is selected with a memory trigger selection strategy. Whereas, most people do expect to feel better as a result of sad music that is selected with a memory trigger when the selection of this music was specifically aimed at trying to achieve the goals; distraction, memory and feeling closer to others or and cognitive (GO-COG). It is thus very unlikely that people select music with a memory trigger selection strategy in order to try to achieve mood-
**enhancement** when they do not also have any of the goals by which mood-enhancement can be mediated.

**Discussion and Conclusions**

This research was guided by several predictions, most of which were confirmed by the data analyses. In the paragraphs below an overview will be provided of the findings on each research question.

**Structure of the Data**

The prediction regarding the structure of the data was that when investigating this statistically a distinction of goals, effects and strategies would be observed relatively similarly to previous findings on listening to sad music when feeling sad by Van den Tol and Edwards (2011). The results of the analyses largely confirmed this.

In the analysis on music selection strategies three components were observed, these components were named; connection and memory triggers, high aesthetic value, and message music. The items that represented the music selection strategies connection and memory triggers loaded high on one component. These findings suggest that the strategies connection and memory triggers are often used at the same time or to pursue similar self-regulatory goals. It is important to note, however, that even though these strategies may partly overlap, findings on the analyses of the relation between each music selection strategies with each function (see Table 2.8) do suggest that distinct psychological processes guide these selection strategies. Hence, more research should be conducted to investigate this partial overlap further.

In the analyses on indirect self-regulatory goals and effects one component was observed that represented all the items of the function mood-enhancement. These findings were similar for both indirect goals and indirect effects.
Five components were observed in the principal components analyses that were conducted on direct self-regulatory goals and effects. These findings were similar for both indirect goals and indirect effects. The components that were found represented: (re-)experiencing affect, memories and feeling closer to others, cognitive, friend, and distraction. The items that represented the functions memories and social grouped together in one principal component. This was however not highly surprising as in previous research on listening to sad music it had been observed that the memories that are retrieved through music listening are often of a social nature (Van den Tol & Edwards, 2011). The overlap between these functions may explain the grouping together of these items.

**Importance of Strategies and Functions**

It was predicted that of all functions, (re-)experience affect and retrieving memories would be the most important for explaining sad music listening behaviour, and that mood-enhancement would be somewhat less important. The analyses of the data confirmed these predictions.

The findings that (re-)experiencing affect was the most important function of sad music listening seems generally in line with literature on the psychological functions of music listening that indicates that affect regulation motivates most of people’s decision to engage in music listening (DeNora, 1999; Juslin & Laukka, 2004; Lonsdale & North, 2011; Saarikallio & Erkkilä, 2007). It was previously, however, concluded that mood-enhancement is the most important reasons for listening to music (Ter Bogt, et al., 2010; Thayer, Newman, & McClain, 1994). Results of the current research provide evidence, however, for the expectation that mood-enhancement is not the most important reasons for people’s motivation to engage in listening to self-selected sad music when feeling sad.
CHAPTER 4: LISTENING TO SAD MUSIC

Moreover, previous research on music listening in general has indicated that retrieving memories was not among the most important reasons for listening to music (Juslin & Laukka, 2004). Nevertheless, retrieving *memories and wanting to feel closer to others* was observed as the most important function of listening to sad music when feeling sad in the current research. These findings indicate that motivations to listen to sad music when feeling sad can be distinguishing from music listening motivations in general. It is suggested that these differences in findings can be explained by the specific focus of the current research on situations in which people had experienced adverse emotional events and wanted to cope with these. It has already been indicated that selecting music with a memory trigger occurs more often when people want to cope with problems (Van Goethem, & Sloboda, 2011). Moreover, the description of nostalgia is closely related to the component *memories and feeling closer to others*; ‘nostalgia was associated with memories in which the self figured prominently and that typically related to interactions with important others or to momentous events.’(Wildschut, et al., 2006, p. 17). Moreover, research on nostalgia has indicated that the most important triggers for wanting to experience nostalgia are negative affect and feeling alone (Wildschut, et al., 2006) and that nostalgias main function is to bolster social bonds. In other words, negative effect originated from negative emotional events may motivate people to engage in sad music listening as a mean to experience nostalgia as a form of coping with these feelings.

In sum, the findings on the importance of functions suggest that music listening behaviour in adverse situations can best be explained by adopting a utilitarian paradigm (Tamir, Chiu, & Gross, 2007), which means that people’s music listening motivations are not merely guided by the pursuit of pleasurable mood states but also by other goals that
are perceived to sometimes be of a higher importance than immediate satisfaction of pleasure goals (e.g. mood-enhancement).

It was also predicted that of all the strategies for selecting sad music the strategies of connection and memory triggers would be the most important whereas the strategies high aesthetic value and message music would be the least important. The analyses of the data confirmed this prediction as well.

Abeles and Chung (1996) have stated that people’s tastes and preferences for music should be treated as different concepts, and that although people’s general taste for music is relatively stable over time and context, people’s music preference (i.e. people’s music selection) is highly dependent on situational fit and current affective state. Moreover, recent findings have shown that people’s daily favourites reflected daily events and do not always reflect long-term favourites (Lamont & Webb, 2009). The finding that high aesthetic value was not among the most important strategies verify the importance of differentiating between taste and preference. The current results suggest that situational fit and affective state especially play a role in music selection of sad music when feeling sad. These results also suggest that the importance of situational fit and current mood is even greater than of personal taste. In other words, when people listen to sad music in adverse situations they will often select music that fits their goals and desires rather than that they select music with a high aesthetic value selection strategy.

Relations Between Strategies and Functions

In line with expectations it was found that people had used specific music selection strategies in order to pursue certain specific functions. These finding confirm expectation that people select specific ‘sad’ music that fits their goals (Van den Tol &
CHAPTER 4: LISTENING TO SAD MUSIC

Edwards, 2011; Van Goethem & Sloboda, 2011; DeNora, 1999; Saarikallio & Erkkilä, 2007; Schäfer & Sedlmeier, 2009; Schwartz, & Fouts, 2003; Sloboda, Lamont, & Greasley, 2009; Thoma, et al., 2011). Empirical evidence was provided for the prediction that much of the affective reaction to music can be explained by a strategically selection of music in order to induce certain emotions (e.g. Knochbloch & Zillmann, 2002) and that this process is largely guided by an aim to experience emotional cognition (Juslin & Västfjäll, 2008), but also by the selection of music that triggers memories (Baumgartner, 1992; Juslin & Västfjäll, 2008). In other words, using a connection selection strategy yielded the strongest correlation to (re-)experiencing affect and memory triggers selection strategy yielded the strongest to the function memories and feeling closer to others, but also yielded strong correlations with (re-)experiencing affect. In line with predictions the result additionally indicated that selection of music with memory triggers is motivated by experiencing memories and feeling social connection (Baumgartner, 1992; Van den Tol & Edwards, 2011), that people select music because of the message music in the lyrics of the song to learn from the music and use the music for cognitive reasons (Van Goethem, 2010; Saarikallio & Erkkilä, 2007), that people often used a high aesthetic value selection strategy when they aim for distraction (Van den Tol & Edwards, 2011), and that when people select sad music when feeling sad with the aim of mood-enhancement they will often consciously make use of the fact that ‘stimuli that is perceived to have high aesthetic value will also generate sensory pleasure and inhibition displeasure (Hekkert, 2006; Menon & Levitin, 2005; Schubert, 1996).

In sum, the current research shows that in order to understand what self-regulatory function certain music can provide it is important to take into account the psychological processes that are usually used to select this music and vice versa. Moreover, the research
provided several new insights in which music selection strategies are motivated by which self-regulatory goals, and how these strategies results in psychological effects.

**Relations Between Strategies, Functions and Mood-Enhancement**

The results of several multiple mediation analyses provided evidence that both the functions cognition, and distraction mediated mood-enhancement, which confirmed previous findings that mood-enhancement is often an indirect effect of psychological processes during music listening (Van den Tol & Edwards, 2011; Saarikallio & Erkkilä, 2007) and provided new perspective on how this can be achieved. Moreover, the analyses of the data provide empirical evidence that mood-enhancement can both be a direct and an indirect function of music listening (Van den Tol & Edwards, 2011). It was observed that only when music was selected based on high aesthetic value then mood-enhancement was a significant direct function achieved by music listening. The extent to which mood-enhancement is a direct function of music listening is however dependent on which selection strategy is used. Sad music may usually foster mood-enhancement though indirect processes such as by providing people with a platform for cognitive re-appraisal or for distraction of current feelings and thoughts but sad music listening can also directly provide mood enhancement when music is selected based on high aesthetic value.

These findings are novel as no research so far has investigated mood-enhancement after listening to sad music from a self-regulatory perspective. The current state of research on sad music listening and mood-enhancement may suggest that emotional experience of listening to music can roughly be understand as two processes, one of these is people’s evaluation of the beauty and pleasantness of the music and the other is the experience of the emotions and mood portrayed by the music (Schubert,
CHAPTER 4: LISTENING TO SAD MUSIC

2007; Schubert, 2010; Sloboda and Juslin, 2001). In the current research empirical evidence has been provided on the existence of two additional processes through which music listening can provide mood-enhancement. Music listening can also result in mood-enhancement by providing an opportunity for people to engage in cognitive re-appraisals and reframing thoughts and by providing people with the opportunity to distract themselves from their thoughts.

In addition to the findings outlined above an unexpected interesting effect was observed. When the mediating roles of other goals (e.g. distraction, memory and feeling closer to others and cognitive) were taken into account a reversed effect was observed for the selection of music with a memory trigger selection strategy on having the goal (not the effect) of mood-enhancement. These findings indicate that it is unlikely that people select music with a memory trigger selection strategy in order to try to achieve mood-enhancement when they do not also have any of the goals by which mood-enhancement can be mediated. In other words, people expect to feel worse as an effect of listening to sad music with a memory trigger when they do not have any clear psychological reasons for selecting music with this selection strategy. Interestingly people’s expectations were not verified in the effects that they reported. Future research should aim to explore this relation.

Contributions

Only few studies have provided a detailed investigation on the process underlying self-regulation through music (Van den Tol & Edwards, 2011; DeNora, 1999; Saarikallio & Erkkilä, 2007; Van Goethem & Sloboda, 2011) or have investigating the psychological processes that can explain peoples sad music listening behaviour when feeling sad (Van den Tol & Edwards, 2011). Based on the current research several new insights have been
CHAPTER 4: LISTENING TO SAD MUSIC

gathered that are crucial for understanding people’s decision to engage in listening to sad music when feeling sad. It is expected that these findings will contribute to current debate and theory development in the field of music psychology and related fields of psychological investigation.

Moreover, a variety of studies have already shown that music listening can be used effectively in therapy settings to help people with grief processes (Dalton & Krout, 2006; Plener, et al, 2010; Skewes, 2001). Hence, these insights are additionally expected to inform the work of music therapists by proving frameworks for further refining useful treatments, whenever music listening is part of music therapy settings (Grocke & Wigram, 2007; Plach, 1996). For many people music listening plays an important role in coping with everyday life stress (North, Hargreaves, & O’Neill, 2000; Miranda, & Claes, 2009; Saarikallio & Erkkilä, 2007; Thayer, Newman, & McClain, 1994; Van Goethem & Sloboda, 2011). Hence, knowledge about the ways in which people can use music to self-regulate will also be important educating health care professionals on the way that people can use music for self-regulation and coping for educating people in society who are interested in this topic.

Limitations and Future Directions

Some limitations have to be taken into account with regard to the validity of the current findings. The current research was aimed at explaining the behaviour of people who are involved in sad music listening when feeling sad and not at explaining the behaviour of people who are not involved in this. Hence, the results of the current research were based on a sample of participants that had responded to an invitation to participate in a study that was aimed at investigating this. Thus, people who volunteered to participate in this study are mainly people who sometimes listen to sad music when
feeling sad. In other words, the current research mainly represents those people who engage in sad music listening when feeling sad.

In a recent survey study it was investigated to what extent people enjoy the experience of sad emotions as a result of music listening (Garrido & Schubert, 2011) it was found that 30 out of the 59 participants had enjoyed the experience of negative emotions as a result of music listening, the extent to which people enjoyed sad emotions resulting from music listening was related to personality characteristics. No research so far has investigated the specific personality factors of participants who often listen to sad music when feeling sad, as such future research may focus on this.

The current research was conducted with a retrospective survey design. People were asked to rate statements in relation to memories of behaviour that they had engaged in. Future research may search for opportunities for generalizing these findings (Sloboda & Juslin, 2001) by looking into people’s music listening behaviour during listening to sad music when feeling sad. Such research may for instance be conducted by using a form of Experience Sampling Method (Van Goethem & Sloboda, 2011).
CHAPTER 4: LISTENING TO SAD MUSIC

References Chapter 4


CHAPTER 4: LISTENING TO SAD MUSIC


CHAPTER 4: LISTENING TO SAD MUSIC


CHAPTER 4: LISTENING TO SAD MUSIC


CHAPTER 4: LISTENING TO SAD MUSIC


CHAPTER 4: LISTENING TO SAD MUSIC


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CHAPTER 4: LISTENING TO SAD MUSIC


Vuoskoski, J. K., & Eerola, T. (2011). The role of mood and personality in the perception of emotions represented by music, *Cortex, 47*(9),1099-1106.


### Table 2.1:

**Rotated Component Matrix on Direct Goals**

<table>
<thead>
<tr>
<th>Components</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1= (Re-)experiencing Affect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2= Memories and Feeling Closer to Others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3= Friend</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4= Cognitive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5= Distraction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The reasons I listened to the sad music was...

- ...to bring back memories 0.70
- ...to remind me of people I know 0.79
- ...to remind me of people that have passed away 0.87
- ...to feel connected to people I know 0.64
- ...to feel a connection with people that have passed away 0.83
- ...to get in touch with my emotions and thoughts 0.74
- ...to enter into a safe place where I can get away from my problems 0.54
- ...to distance myself from the problem 0.84
- ...to focus my attention on something else 0.70
- ...to release my emotions 0.80
CHAPTER 4: LISTENING TO SAD MUSIC

…to make me experience emotions related to my life’s circumstances

…to cry 0.74
…to grieve 0.73
…to express my feelings and thoughts 0.61
…to strengthen my emotions 0.64
…to see things from a different perspective 0.66
…to get a more realistic view of my feelings and thoughts 0.68
…to better understand whatever situation I am in 0.75
…to better understand whatever situation I am in 0.71
…to really experience and express my emotions in the hope that I can then move on 0.61

…to feel understood 0.73
…to feel like I am being empathized with 0.85
…to feel befriended by the music 0.74
…to feel less alone 0.65

Note: The eigenvalues of the rotated principal component analyses for direct goals ranged from 4.71 on the first component to 2.05 on the fifth component. The five components of direct goals explained 68.67 of all variance in the data.
### Table 2.2:

*Rotated Component Matrix on Direct Effects*

<table>
<thead>
<tr>
<th>Components</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1=(Re-)experiencing Affect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2=Memories and feeling closer to others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3=Friend</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4=Distraction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5=Cognitive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Listening to this sad music did….

- …bring back memories
  - 0.61
- …remind me of people I know
  - 0.77
- …remind me of a someone that passed away
  - 0.86
- …make me feel connected to people I know
  - 0.68
- …make me feel connected to people that have passed away.
  - 0.81
- … make me in touch with my emotions and thoughts
  - 0.73
- … provide a safe place where I could get away from my problems
  - 0.35  0.65
- … make me distance myself from the problem
  - 0.83
- … make me focus my attention on something else
  - 0.77
- …make me release my emotions
  - 0.8
- …make me experience emotions related to my life’s circumstances
  - 0.76
- …make me cry
  - 0.73
- …make me grieve
  - 0.65
- …make me express my feelings and thoughts
  - 0.74
CHAPTER 4: LISTENING TO SAD MUSIC

…make my emotions stronger

…make me see things from a different perspective

…make me get a more realistic view at my feelings and thoughts

…make me better understand my situation

…make me strongly experience and express my emotions, making them wear off

…make me feel understood

…give me the feeling like the music is empathising with me

…make me feel befriended with the music

…make me feel less alone

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>…make my emotions stronger</td>
<td>0.69</td>
</tr>
<tr>
<td>…make me see things from a different perspective</td>
<td>0.61</td>
</tr>
<tr>
<td>…make me get a more realistic view at my feelings and thoughts</td>
<td>0.76</td>
</tr>
<tr>
<td>…make me better understand my situation</td>
<td>0.77</td>
</tr>
<tr>
<td>…make me strongly experience and express my emotions, making them wear off</td>
<td>0.63</td>
</tr>
<tr>
<td>…make me feel understood</td>
<td>0.65</td>
</tr>
<tr>
<td>…give me the feeling like the music is empathising with me</td>
<td>0.65</td>
</tr>
<tr>
<td>…make me feel befriended with the music</td>
<td>0.74</td>
</tr>
<tr>
<td>…make me feel less alone</td>
<td>0.60</td>
</tr>
</tbody>
</table>

*Note:* Eigenvalues of the rotated principal component analysis for direct effects ranged from 5.19 on the first component through 2.27 on the fifth component and explained 66.90 percent of variance in total.
CHAPTER 4: LISTENING TO SAD MUSIC

Table 2.3:

*Rotated Component Matrix on Indirect Goals*

<table>
<thead>
<tr>
<th>Component 1 = Mood- Enhancement</th>
<th>1</th>
</tr>
</thead>
</table>

The reasons I listened to the sad music was….

- …to feel good                0.66
- …to calm me down             0.65
- …to make me feel better      0.71
- …to be cheered up            0.83
- …because it has a soothing effect on me 0.82

*Note:* The eigenvalue on the only rotated component on the factor analyses on indirect goals was 3.20 and explained 64.01 of all variance.
Table 2.4:

*Rotated Component Matrix on Indirect Effects*

<table>
<thead>
<tr>
<th>Component 1 = Mood-Enhancement</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening to this sad music did…</td>
<td></td>
</tr>
<tr>
<td>… make me feel good</td>
<td>0.84</td>
</tr>
<tr>
<td>...make me feel better</td>
<td>0.79</td>
</tr>
<tr>
<td>….cheer me up</td>
<td>0.83</td>
</tr>
<tr>
<td>….calm me down</td>
<td>0.84</td>
</tr>
<tr>
<td>...have a soothing effect on me</td>
<td>0.75</td>
</tr>
</tbody>
</table>

Note: The eigenvalue on the only rotated component on the factor analyses on indirect effects was 3.86 and explained 64.42 of all variance.
CHAPTER 4: LISTENING TO SAD MUSIC

Table 2.5:

Rotated Component Matrix on Music Selection Strategies

<table>
<thead>
<tr>
<th></th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>1= Message Music (MES)</td>
<td></td>
</tr>
<tr>
<td>2= Music With a Memory and Connection (MEM-CON)</td>
<td></td>
</tr>
<tr>
<td>3= High Aesthetic Value (AEST)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reason</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>… the music brings back memories</td>
<td>0.67</td>
</tr>
<tr>
<td>… the music is music that reminds me of a person</td>
<td>0.82</td>
</tr>
<tr>
<td>… the music has as a useful message</td>
<td>0.60</td>
</tr>
<tr>
<td>… the music contains lyrics that communicate hope</td>
<td>0.95</td>
</tr>
<tr>
<td>… the music contains lyrics that communicate a positive message</td>
<td>0.84</td>
</tr>
<tr>
<td>… to experience the beauty of the sad songs</td>
<td>0.95</td>
</tr>
<tr>
<td>… to experience the beauty of the sad lyrics</td>
<td>0.81</td>
</tr>
<tr>
<td>… because I love sad music in general</td>
<td>0.61</td>
</tr>
<tr>
<td>… because the lyrics relate to my situation</td>
<td>0.64</td>
</tr>
<tr>
<td>… because the mood of the music is similar to my own mood</td>
<td>0.51</td>
</tr>
</tbody>
</table>

Note: The rotated components eigenvalues for strategies ranged from 2.115 on the first component to 2.064 on the third component, the component outcome of all strategies components cumulatively explained 62.869 of all variance in the data, with the first component explaining 21.152 percent and the third 20.648.
Table 2.6:

Mean scores and Differences on Self-regulatory Goals and Effect for Sad Music Listening

<table>
<thead>
<tr>
<th>Self-regulatory Functions</th>
<th>Goal</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>SD</td>
</tr>
<tr>
<td><strong>Direct Functions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEM-OTH</td>
<td>3.36</td>
<td>1.18</td>
</tr>
<tr>
<td>AFFECT</td>
<td>3.38</td>
<td>1.13</td>
</tr>
<tr>
<td>COG</td>
<td>2.77</td>
<td>1.17</td>
</tr>
<tr>
<td>FRIEND</td>
<td>2.75</td>
<td>1.28</td>
</tr>
<tr>
<td>DIS</td>
<td>2.80</td>
<td>1.23</td>
</tr>
<tr>
<td><strong>Indirect Functions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOODENH</td>
<td>3.20</td>
<td>1.03</td>
</tr>
</tbody>
</table>
Table 2.7:

Mean Scores on Music selection Strategies for Listening to Sad Music

<table>
<thead>
<tr>
<th>Strategy</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEMORIES</td>
<td>4.08</td>
<td>1.04</td>
</tr>
<tr>
<td>MEM-CON</td>
<td>4.00</td>
<td>0.93</td>
</tr>
<tr>
<td>CONNECTION</td>
<td>3.91</td>
<td>1.12</td>
</tr>
<tr>
<td>AESTHETIC VALUE</td>
<td>3.50</td>
<td>1.21</td>
</tr>
<tr>
<td>MESSAGE MUSIC</td>
<td>3.44</td>
<td>1.22</td>
</tr>
</tbody>
</table>
Table 2.8:
Result on Regression Analyses on How Music Selection Strategies Relate to Direct Self-regulatory Goals and How Music Selection Strategies Relate to Direct Self-regulatory Effects

<table>
<thead>
<tr>
<th></th>
<th>Connection (CON)</th>
<th>Music With a Memory (MEM)</th>
<th>High Aesthetic Value (AEST)</th>
<th>Message Music (MES)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beta</td>
<td>F</td>
<td>R²</td>
<td>Beta</td>
</tr>
<tr>
<td>GO-AFFECT</td>
<td>0.65***</td>
<td>162.23</td>
<td>0.42</td>
<td>0.46***</td>
</tr>
<tr>
<td>GO-ME-OTH</td>
<td>0.48***</td>
<td>66.67</td>
<td>0.23</td>
<td>0.73***</td>
</tr>
<tr>
<td>GO-COG</td>
<td>0.41***</td>
<td>43.07</td>
<td>0.16</td>
<td>0.35***</td>
</tr>
<tr>
<td>GO-DIS</td>
<td>0.52***</td>
<td>34.97</td>
<td>0.10</td>
<td>0.19***</td>
</tr>
<tr>
<td>GO-FRIEND</td>
<td>0.44***</td>
<td>52.93</td>
<td>0.16</td>
<td>0.26***</td>
</tr>
<tr>
<td>GO-MOODENH</td>
<td>0.23***</td>
<td>12.27</td>
<td>0.05</td>
<td>0.29***</td>
</tr>
</tbody>
</table>
CHAPTER 4: LISTENING TO SAD MUSIC

172


CHAPTER 4: LISTENING TO SAD MUSIC

Figure 2.1: Overview of Expectations

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Expected Relationships</th>
<th>Direct Functions</th>
<th>Expected Relationships</th>
<th>Indirect Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection</td>
<td></td>
<td>(Re-)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>experiencing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Affect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory Triggers</td>
<td></td>
<td>Retrieving</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Memories</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Aesthetic</td>
<td></td>
<td>Mood</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enhancement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Message Music</td>
<td></td>
<td>Social</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Distraction</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cognitive</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Friend</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 2.2: Results for the Analysis: Direct and Indirect Relations Between the Strategy of Connection, all Self-regulatory Goals and Mood-enhancement as a Goal.

Note: * p < .05, ** p < .01, *** p < .001; Error terms are assumed to be correlated but are not being depicted in this model for ease of interpretation.
Figure 2.3: Results for the Analysis: Direct and Indirect Relations Between the Strategy of Memory Triggers, all Self-regulatory Goals and Mood-enhancement as a Goal.

Note: * p < .05, **, p < .01***, p < .001; Error terms are assumed to be correlated but are not being depicted in this model for ease of interpretation.
CHAPTER 4: LISTENING TO SAD MUSIC

Figure 2.4: Results for the Analysis: Direct and Indirect Relations Between the Strategy of High Aesthetic Value, all Self-regulatory Goals and Mood-enhancement as a Goal.

Note: * p < .05, **, p < .01***, p < .001; Error terms are assumed to be correlated but are not being depicted in this model for ease of interpretation.
Figure 2.5: Results for the Analysis: Direct and Indirect Relations Between the Strategy of Message Music, all Self-regulatory Goals and Mood-enhancement as a Goal.

Note: * $p < .05$, ** $p < .01$, *** $p < .001$; Error terms are assumed to be correlated but are not being depicted in this model for ease of interpretation.
CHAPTER 4: LISTENING TO SAD MUSIC

Figure 2.6: Results for the Analysis: Direct and Indirect Relations Between the Strategy of Connection, all Self-regulatory Effects and Mood-enhancement as an Effect.

Note: * $p < .05$, ** $p < .01$, *** $p < .001$; Error terms are assumed to be correlated but are not being depicted in this model for ease of interpretation.
Figure 2.7: Results for the Analysis: Direct and Indirect Relations Between the Strategy of Memory Triggers, all Self-regulatory Effects and Mood-enhancement as an Effect.

Note: *p < .05, **p < .01***, p < .001; Error terms are assumed to be correlated but are not being depicted in this model for ease of interpretation.
Figure 2.8: Results for the Analysis: Direct and Indirect Relations Between the Strategy of High Aesthetic Value, all Self-regulatory Effects and Mood enhancement as an Effect.

Note: * p < .05, ** p < .01, *** p < .001; Error terms are assumed to be correlated but are not being depicted in this model for ease of interpretation.
Figure 2.9: Results for the Analysis: Direct and Indirect Relations Between the Strategy of Message Music, all Self-regulatory Effects and Mood-enhancement as an Effect.

Note: * p < .05, **, p < .01, ***, p < .001; Error terms are assumed to be correlated but are not being depicted in this model for ease of interpretation.
Chapter 5

Listening to Happy and Sad Music: On the Role of Emotions and Appraisals in the Decision to Engage in Music Listening.
CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC

Abstract

It was investigated if the extent to which people want to listen to self-identified happy and sad sounding music is different when experiencing different emotions and if this can be explained in relation to patterns of cognitive appraisal of these emotions. Survey data in the form of statements on different emotions and music listening were rated by a total of 606 people and analyzed and coded using the findings of Smith and Ellsworth (1985) concerning the cognitive appraisals of these emotion. The results of several analyses indicate different preference for the extent to which people want to listen to either music that they identified to sound sad and happy. Preference for wanting to listen to these types of music also varied for different emotion states. Moreover, interaction effects were observed for self-identified happy and sad sounding music listening and emotional states. The results of this study indicated that the underlying appraisals of emotions are important for explaining these effects.
CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC

**Introduction**

**Everyday Life Music Selection**

The processes that underlie everyday life selection of music are of interest to a growing community of researchers (North, Hargreaves, & Hargreaves, 2004; Saarikallio & Erkkilä, 2007; Sloboda, et al., 2001, 2009). In several recent studies music listening has been investigated in everyday life using Experience Sampling Methodology (ESM). ESM is a method of research in which participants are asked to make notes of their experience in real time when they are engaging in behaviour that the researcher is interested (Hektner, Schmidt, & Csikszentmihalyi, 2006). Employing this method, North and Hargreaves (2004) sent a text message to 346 participants each day during a period of 14 days. When receiving this text participants were required to fill in a survey about their music listening at that moment. The results show that during approximately 39 percent of the occasions people were listening to music. Other studies that also used ESM show that music is most often listened to when at home and alone, in the weekend, and during the evenings (Sloboda, et al., 2001; North & Hargreaves, 2004). In 25 percent of these cases listening to music is the main activity, whereas in the others listening often accompanies some non-musical activity and is then chosen to enhance that other activity in some way (Sloboda, et al., 2009).

**Music Portrays Emotions**

When asked to indicate the emotions portrayed by music, people are typically very successful in identifying the emotions the music was originally intended to portray (Bezdek & Gerrig, 2008; Kotlyar & Morozov, 1976; Balkwill & Thompson, 1999). Happiness and sadness appear easiest to express through music, to recognize by listeners, and to induce in listeners (Gabrielsson & Juslin, 1996; Krumhansl, 1997; Thoma, et al.,
CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC

2011). Emotions portrayed by the music stem from the music structure, instrument choice, dynamics, volume, and the interpretation of the specific music performer (Gabrielsson & Lindström, 2001). It has additionally been found that music with a slow pace, low sound level, and minor chords is often perceived to portray sadness. Music with a fast tempo, high sound level, and major chords, on the other hand, is often perceived to portray happiness (Gabrielsson & Lindström, 2001; Juslin & Laukka, 2004; Khalfa, et al., 2008).

Definitions

In the current research their will be focussed on self-identified sad music. The term self-identified sad music refers to music that has been identified to sound sad from the perspective of the listener. Please note that this definition is different to the definition of sad music that is sometimes used in other music research, in which the researcher has been identified by sad music according to some prototypical features (Gabrielsson & Lindström, 2001; Juslin & Laukka, 2004; Khalfa, et al., 2008) that are commonly prevalent in sad music.

Aim of this Study

Research suggests that motivations to listen to music that sounds sad or music that sounds happy are guided by different psychological process (Hunter, Schellenberg, & Griffith, 2011; Schellenberg, Peretz, & Vieillard, 2008; Van den Tol & Edwards, 2011). Moreover, studies also suggest that the decision to listen to music or not to listen to music may be influenced by people’s self-regulatory goals (Lonsdale & North 2011; Saarikallio & Erkkilä, 2007; Van Goethem, 2011; Van den Tol & Edwards, 2011) and that self-regulatory goals are influences by the situation or people’s emotional state (Van den Tol & Edwards, 2011). However, so far no research has investigated the extent to which
happy and sad sounding music selection and the decision to engage in music listening or not vary among different emotions or has investigated how underlying situational factors that cause emotions play a role in these decisions. As such the current research will focus on this. Moreover, it is commonly accepted that emotions in everyday life are caused by evaluation of situational circumstances called appraisals (e.g. Frijda, 1986; Smith & Elsworthy, 1985). It has to be made clear that these appraisals are the appraisals of the emotions people experience when making the decision to listen to music and that it is believed that the listener’s emotional reaction to music generally lacks the cognitive appraisal of everyday life emotions (Juslin & Västfjäll, 2008).

The current research will therefore also investigate how the typical underlying appraisals of groups of emotions may potentially play a role in the selection of self-identified happy and sad sound music and in the decision to engage in music listening or not.

Self-regulatory Goals and Happy Versus Sad Music Listening

There are strong indications that people’s goals also affect whether or not people decide to listen to music or not or to listen to either happy or sad music (Hunter, Schellenberg, & Griffith, 2011; Schellenberg, Peretz, & Vieillard, 2008, Van den Tol & Edwards, 2011). Whereas self-identified happy music can be used very affectively for uplifting ones mood and feeling energized (Saarikallio & Erkkilä, 2007), self-identified sad music can be particularly helpful for getting in touch with feelings, retrieving memories, and expressing sadness (Van den Tol & Edwards, 2011). More specifically, when feeling sad, participants report that listening to self-identified sad music can help them with feeling connected to their inner affective dynamics, retrieving memories of particular significance, and as a basis for cognitive reappraisal of feelings and thoughts. Importantly, whereas happy music may particularly serve immediate hedonic goals (e.g.,
feeling good), sad music seems guided by more utilitarian goals that may hold positive outcomes especially in the long run, such as for coping with emotional distress after adverse events (Van den Tol & Edwards, 2011).

**The Circumplex Model.**

The *circumplex model* of affect is an established model in understanding and categorizing emotion. The model aims to capture emotions within two essential dimensions: ‘valence’ and ‘arousal’ (Russell, 1980), and the origin of this model can be traced back to the classic writings of Wundt (1912). Arousal can be defined as being in an alert and awake mental state; it reflects the subjective experiences of restlessness, excitation, and agitation (Barrett & Russell, 1998; Russell, 1980). Anger can for instance be categorized as an emotion with high arousal and boredom as an emotion with low arousal (Russell, 1980). Valence reflects an intrinsic attractiveness or pleasantness; for example how pleasant it is to experience a specific emotion (Frijda, 1986). Happiness is typically seen as an emotion with a positive valence, whereas sadness is typically seen as a negative valence emotion (Russell, 1980).

The circumplex model can not only be used to organize and interpreted everyday life emotional experiences, but it can also be used to interpret and categorize stimuli that portray emotions, such as facial expressions (Abelson & Sermat, 1962; Osgood, 1966), affective words (Russell, 1978, 1980), voice perceptions (Green & Cliff, 1975), and music (Bigand, et al., 2005). Moreover, besides the affect *portrayed* by music, also the affect *experienced* as a result of music listening can be effectively described in terms of arousal and valence (Husain, Thompson, & Schellenberg, 2002).

However, although an overlap exists between categorization of the circumplex model on emotions that are intended to be portrayed and emotions experienced in music,
it should be noted that deviations exist as well. Specifically, findings on the valence axes are not entirely in line with emotions research as people do find the emotional experience of listening to sad music slightly more pleasant or ‘positively valence’ that that they find the sad emotions that are portrayed in music (Bigand, et al., 2005; Blood & Zatorre, 2001; Hunter et al., 2008, 2010; Van den Tol & Edwards, 2011).

**Mood Congruency**

Because of the overlap between the emotions portrayed and experienced during music listening, there is a big chance that the preference for music that portrays a similar emotions as one is experiencing one self, can probably be explained by *Mood congruency* which is a definition used to describe the congruency between people’s own affect and the affect portrayed by certain stimuli (Bouhuys, Bloem, & Groothuis, 1995; Bradley, Mogg, & Lee, 1997; Koster, et al., 2005; Vuoskoski & Eerola, 2011). More specific, recent findings suggest that people show a greater preference for listening to music that portrays similar levels of arousal and valence as one’s affective state (Vuoskoski & Eerola, 2011), which was found as the result of an experiment carried out among 67 participants who evaluated 50 researcher selected music excerpts that had features that are commonly associated with certain emotional expressions (anger, fear, happiness, sadness, and tenderness). Similarly, findings from other studies also suggest that when experiencing sad moods, people are more prone to select sad sounding rather than happy sounding or uplifting music (Hunter, Schellenberg, & Griffith, 2011; Saarikallio, 2011; Saarikallio & Erkkilä, 2007; Schellenberg, Peretz, & Vieillard, 2008; Thoma, et al., 2011).
CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC

Beyond The Two Dimensional Categorization of Emotions

Approaching everyday life emotions according to the two dimensions of valence and arousal following the circumplex model has great benefits for providing a basic understanding of emotions in everyday life. In order to understand the factors that have an influence on people’s decision to engage in music listening or to engage in listening to music that either portrays happiness or sadness, it is however also valuable to examine what other factors define and distinguish emotions. Indeed, many scholars have focused on categorizing everyday life emotions beyond the important two dimensional structure of the circumplex model. One prominent line of research has focussed on the appraisals that are associated with emotions (Lazarus, 1966, 1991 a). It is believed that emotions guide judgements and enable people to deal quickly with encountered problems or opportunities (Frijda, 1986; Lazarus, 1966, 1991 a; Levenson, 1994; Oatley & Johnson-Laird, 1996; Smith & Elsworth, 1985). Each emotion activates a cognitive predisposition to react to events in line with the central-appraisal dimensions underlying a specific emotion; the appraisal tendency (Frijda, 1986; Levenson, 1994; Oatley & Johnson-Laird, 1996; Lerner & Keltner, 2000; Smith & Elsworth, 1985).

Smith & Elsworth (1985) created an overview of appraisal tendencies associated with several distinct emotions. A set of cognitive appraisals of emotions were found that could be structured around six orthogonal dimensions. Smith & Elsworth (1985) reported that the emotions they investigated ‘varied systematically along each of these dimensions, indicating a strong relation between the appraisal of p circumstances and one's emotional state.’ (p. 813). The descriptions of the dimensions for these 6 cognitive appraisals of emotions are outlined in Table 3.1 depicted in the appendix.
CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC

Behaviour and Coping

In line with the above it can thus be argued that appraisals of emotions give important information on why people act in particular ways when they experience certain emotions, and on how they will interpret and act on subsequent situations. For example, anger and fear are both emotions that are generally seen as unpleasant to experience (negative valence) and involve high arousal; however, anger is associated with an appraisals of certainty and with perceived individual control, whereas fear is associated with an appraisals of uncertainty and lacking personal control. Following research on cognitive appraisals of these emotions (Smith & Elsworth, 1985) it can thus be expected that those people who are experiencing fear are more likely to engage in behaviour that reduces uncertainty than people who are experiencing anger.

The different underlying appraisals of emotions can in turn be associated by different needs in relation to coping, such as the need to cope or not to cope, or the need for different copings strategies (Folkman & Moskowitz, 2004; Lazarus, 1966, 1991 a; Lazarus & Folkman, 1984; Lerner & Keltner, 2000). Coping strategies can be defined as the behaviours and thoughts that are used to deal with stressful situation (Folkman & Lazarus 1980). Two forms of coping are widely used and also well discussed in literature (Folkman & Lazarus 1980). These are problem-focused coping, which involves addressing the problem that is causing distress by making a plan of action or concentrating on the next step; the second form of coping, emotion-focused coping, is aimed at relieving the negative emotions associated with the problem such as by engaging in distracting activities, using alcohol or drugs, or seeking emotional support (Folkman & Lazarus 1980; Folkman & Moskowitz, 2004). An additional form of coping, avoidant
coping, represents situations in which people avoid to deal with or think about a problem (Folkman & Lazarus 1980; Folkman & Moskowitz, 2004).

It has been argued that when the situation requires the control of the distressing emotions, emotion focused coping is used, and that this is then aimed at changing the meaning of the outcome of the event (Folkman & Lazarus, 1985). Music listening can also facilitate a variety of psychological processes that serve the abovementioned coping strategies. For example, music can help a person to learn about a problem by getting advice from the lyrics, which has been identified as a problem focused coping strategy (Miranda & Claes, 2009). In addition, music can be used to change affect and relieve boredom, which was identified as an emotion focussed coping strategy (Miranda & Claes, 2009). Music is sometimes also used in order to forget about the problem in situations in which people should rather actively deal with a problem, as such in some situations listening to music may also be categorized as a form of avoidant coping (Miranda & Claes, 2009). It seems that the most important coping strategy for which music listening is used is emotion focused coping and that engaging in music listening is especially strongly motivated by regulating affect (North, Hargreaves & O’Neill, 2000; Saarikallio & Erkkilä, 2007; Van Goethem, 2010; Van den Tol & Edwards, 2011).

Hypotheses and Expectations

The aim of the current research was to examine whether the decision to listen to self-identified happy or sad music depends on a person their emotional state and the underlying appraisals of emotions. This investigation is highly novel as virtually no past research has systematically investigated the underlying mechanisms that guide music selection, especially not in relation to emotion based appraisal tendencies.
CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC

It was explored to which extent emotional state plays a role in the extent that people want to listen to happy and sad music. Everyday life motions have different underlying appraisals, which cause people to have different needs (Smith & Elsworth, 1985). It was therefore expected that music may be more effective to help achieve certain needs than others. Hence, differences were expected for the extent to which people wanted to listen to music depending on emotions they experience.

The mean differences on the extent to which people want to listen to self-identified happy and sad sounding music among each emotional state were also explored. It has already been indicated that independent of affective state people do in general prefer happy over sad soundings pieces of music (Hunter et al., 2011; Husain, Thompson, & Schellenberg, 2002). It was therefore expected to also observe a preference for self-identified happy music over self-identified sad music independent of affective state.

Based on the earlier observations that sad and happy music serve different functions (Hunter, Schellenberg, & Griffith, 2011; Schellenberg, Peretz, & Vieillard, 2008, Van den Tol & Edwards, 2011) and based on the observations that different emotions cause people to have different needs (Smith & Elsworth, 1985) interaction effects were expected on the extent to which people want to listen to either self-identified happy or sad music as a function of each emotion.

It was also explored to which extent appraisals of emotions plays a role in the extent that people want to listen to self-identified happy and sad sounding music. Based on previous research on coping and appraisal tendencies (Folkman & Moskowitz, 2004; Lazarus, 1966, 1991 a; Lazarus & Folkman, 1984; Lerner & Keltner, 2000) it was expected that the specific appraisals tendencies of a group of emotions will influence the extent to which people want to listen to either happy or sad sounding music. In line
findings on mood congruency (e.g. Bouhuys, et al., 1995) it was expected that listening to self-identified happy music is preferred more for all emotional states with a positive valence and less for all emotions with a negative valence and that listening to self-identified sad music is preferred more for emotions with a negatively valence and less for emotions with a positive valence. Because no research has been conducted in the current field or research on music listening and appraisal tendencies of emotions, no other hypothesis were formed on the specific roles of appraisals in relation to music listening.

**Methods**

**Design**

A survey study was conducted among a large international sample. Participants were recruited from public social network sites and forums (research, social science and music) on which an invitation was placed to participate in this study and a link to a website that could be used to participate. On the website an information sheet and a consent form were presented prior to the survey.

**Procedure**

As part of the questionnaire participants were asked to rate several statements. Participants were first asked to fill in several questions on the extent to which they want to listen to music that they believed portrayed happiness when being in 10 different emotional states. This part of the survey started with the question: To what extent would you like to listen to music that portrays happiness when you experience the following emotions? Then a list of 10 emotions was shown (happiness, pride in achievement, surprise, sadness, contempt, fear, anger, guilt, disgust, and shame). People were asked to rate these questions on a 5 point likert-scale, ranging from 1 (I do very much agree with
this) through 5 (I do not agree with this at all). Participants were then asked to do the same thing for music that portrayed sadness. Upon completing the questionnaire participants were thanked for their participation and were provided with a contact email-address of the first author. Participants were encouraged to use this email address in case they had any question in relation to the research. The entire research procedure had received prior ethical approval. All participants who had left more than 5 questions open were removed from the sample.

Participants

A total of 606 people volunteered to participate in the study. Participants (Mean age = 23.95, $SD=7.92$) included 135 men and 470, women and 1 participants with no gender identified. The data contained participants from 60 different nationalities: 339 were from the USA, 57 were Irish, 24 were Canadian, 27 Spanish and 13 were British all other participants had indicated another nationality (less than 10 people). A total of 20 participants were dropped from the sample, because they had left more than 5 questions open.

Results

Emotions and Mean Happy and Sad Music Preference

The first aim of this research was to explore differences between preferences for happy and sad music listening in relation to each of the rated emotions. To investigate this, mean scores were calculated on the items that measured the extent to which people wanted to listen to self-identified happy and sad music for each emotion. An overview of the results of these analyses is provided in Table 3.3.

As reflected in Table 3.3, the following results were observed from most to least preference for music that is self-identified to portray happiness among different emotions:
happiness ($M=4.69$, $SD=0.73$); pride in achievement ($M=4.13$, $SD=1.17$); surprise ($M=3.24$, $SD=1.27$); sadness ($M=3.05$, $SD=1.44$); contempt ($M=2.79$, $SD=1.32$); fear ($M=2.69$, $SD=1.47$); anger ($M=2.52$, $SD=1.45$); guilt ($M=2.12$, $SD=1.27$); disgust ($M=2.11$, $SD=1.28$); shame ($M=1.91$, $SD=1.17$). A within subjects ANOVA indicated significant differences across these ratings, $F (9, 595) = 290.545$, $p < .001$, this indicates that the desire to listen to self-identified happy sounding music depends on what emotion people experience. In sum, these findings confirm our expectations that people’s preference to listen to self-identified happy sounding music vary as function of emotional state.

As reflected in Table 3.3, the following results were observed from most to least preference for music that is self-identified to portray sadness among different emotions; sadness ($M=4.00$, $SD=1.32$); guilt ($M=3.07$, $SD=1.44$); shame ($M=3.02$, $SD=1.47$); anger ($M=2.88$, $SD=1.48$); disgust ($M=2.63$, $SD=1.43$); contempt ($M=2.46$, $SD=1.25$); fear ($M=2.45$, $SD=1.41$); happiness ($M=2.04$, $SD=1.21$); surprise ($M=2.00$, $SD=1.02$); pride in achievement ($M=1.79$, $SD=1.08$). A one-way within subjects ANOVA indicated significant differences across these ratings, $F(9, 593) = 126.065$, $p < .001$, this indicates that the desire to listen to self-identified sad sounding music depends on what emotion people experience. In sum, these findings confirm our expectations that people’s preference to listen to sad sounding music vary as function of emotional state.

**Differences Between Happy and Sad Music Preference for Each Emotion**

We next examined to what extent people wish to listen to either self-identified happy or sad sounding music depending on the emotions they experienced.

A two-factor within subjects ANOVA was conducted to investigate if people’s preference to listen to self-identified happy or sad sounding music varied, to investigate if
people’s music preference varied as a function of emotional state, and to investigate interactions between music listening preference and emotional state. The ANOVA indicated a main effect on the difference between listening to self-identified happy sounding music ($M=2.92$, $SD=0.03$) and listening to self-identified sad music ($M=2.63$, $SD=0.03$), $F(1, 599) = 43.52$, $p < .001$, which means that people prefer to listen to happy music to a greater extent than to sad music. The ANOVA also indicated a main effect for emotion, $F(9, 5391) = 156.69$, $p < .001$, indicating that people’s preference for music listening (both happy and sad) varied as a function of emotional state. An interaction effect was indicated between emotion and music listening, $F(9, 5391) = 548.361$, $p < .001$, indicating that people’s preference for either self-identified happy or sad music varies for each emotional state. In sum, these findings confirm our expectations that people prefer to listen to music that is identified to sound happy to a greater extent than to music that is identified to sound sad music, that people preference to listen to music varies across emotions, and that music preference that vary across emotions show a different pattern for self-identified happy or sad music.

Next several paired sample t-tests were conducted to investigate the specific difference for each emotion on the desire to listen to self-identified happy or sad music. These tests indicated that the desire for either self-identified happy or sad sounding music was different for all of the experienced emotions, as reflected in Table 3.4.

People wanted to listen to a greater extent to self-identified happy music than to self-identified sad music when they experienced the following emotions: happiness ($M=2.65$, $SD =1.50$, $< .001$); pride in achievement ($M= 2.33$, $SD=1.59$, $p < .001$), surprise ($M =1.23$, $SD = 1.57$, $p < .001$), contempt ($M=0.33$, $SD=1.82$, $p < .001$), fear ($M=0.24$, $SD=1.95$, $p< .001$). Whereas people wanted to listen to self-identified sad music to a
greater extent than to self-identified happy music when they experienced the following emotions: sadness ($M=-0.59, SD=2.09, p<.001$), anger ($M=-0.37, SD=2.10, p<.001$), guilt ($M=-0.95, SD=1.20, p<.001$), disgust ($M=-0.52, SD=1.86, p<.001$), shame ($M=-1.11, SD=1.85, p<.001$).

Happy and Sad music Listening and Appraisals

In addition to the above, it was also tested whether wanting to listen to self-identified happy and sad music differs across emotions of the opposite dimensions of appraisals. To do so it was chosen to use an analysis that is sensitive for comparing within as well as between group differences. This was decided because individual differences, such as personality and age, as well as situational factors, such as current mood, play a role in music listening behaviour and emotional processing (Lima & Castro, 2011; Vuoskoski & Eerola, 2011). A multilevel analysis (Aiken and West, 1991) was adopted to control for the statistical variation that can be observed at participants’ level. Smith and Elsworth (1985) findings on patterns of cognitive appraisal tendencies were used to make two groups on each dimension of the appraisal. For example, anger is associated with unpleasantness, high other responsibility/control, certainty, high attentional activity, high anticipated effort, and individual control, as opposed to the opposite dimensions of these appraisals (See Table, 3.3 or Smiths and Elsworth, 1985), hence, the scores of anger contributed to these dimensions of appraisals together with all the other emotions that belonged to the same dimension of a specific appraisal.

In both multilevel analyses the six different appraisals (pleasantness, responsibility/control, certainty, attentional activity, anticipated effort, situational control; Smith & Elsworth, 1985) were included as fixed factors, the extent to which people wanted to listen to self-identified happy sounding music (analysis 1) or self-identified sad
CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC

sounding music (analysis 2) was included as a dependent variable. Participants were selected as grouping variable. The appraisals were then added as predictors of participants’ desire to listen to self-identified happy music or sad sounding music. Entering all appraisals simultaneously into the model would ensure that the obtained results reflected unique contributions of each of the appraisals. The participants were specified as grouping variable to account for the nested structure of the data (i.e. several observations for each participant). A first multilevel analysis was conducted to measure the amount to which people want to listen to self-identified happy sounding music, and a second for self-identified sad music.

The first multilevel analysis on self-identified happy music listening verified the expectation that differences among emotions for self-identified happy music listening can partly be explained by underlying appraisals of these emotions. As can be seen in table 3.5 the results of this analysis indicated that all the emotions’ appraisals significantly affected the desire to listen to happy music. The difference was observed for; Anticipated effort \( (\Delta = -0.68, S_e = 0.04) \), meaning that the group of emotions for high anticipated effort involved less desire to listen to self-identified happy music, compared to low anticipated effort, \( t(5443.33) = -16.62, p < .001 \); Self having control and responsibility as opposed to others having control and responsibility \( (\Delta = 0.62, S_e = 0.05) \), meaning that the emotions in the group for self having control and responsibility involved a greater desire to listen to self-identified happy sounding music compared to the emotions in the group for others having control and responsibility, \( t(5443.33) = 12.25, p < .001 \); Certainty \( (\Delta = 0.66, S_e = 0.06) \), meaning that emotions in the uncertainty group involved a greater desire for wanting to listen to self-identified happy music than emotions in the certainty group, \( t(5443.33) = 10.98, p < .001 \); Attentional activity \( (\Delta = 0.44, S_e = 0.04) \),
meaning that the emotions in the high attentional activity group involved a greater desire for wanting to listen to self-identified happy music than the emotions in the low attentional activity group, \( t(5443.33) = 10.80, \ p < .001 \); Situational control (\( \Delta = 0.79, S_e = 0.08 \)), meaning that emotions in the individual control group involved a greater desire to listen to self-identified happy music than emotions that were categorized in the situational control group, \( t(5443.33) = 10.32, \ p < .001 \); Pleasantness (\( \Delta = 0.48, S_e = 0.06 \)), meaning that pleasantness involved a greater desire for wanting to listen to self-identified happy music than unpleasantness, \( t(5443.33) = 7.99, \ p < .001 \).

The second analysis verified the expectation that self-identified sad music listening preference among emotions can partly be explained by underlying appraisals of these emotions. As can be seen in table 3.6 the results of this analysis indicated that, 5 of the 6 dimensions significantly affected the desire to listen to self-identified sad music. The dimension ‘certainty’ was the dimension that did not yield significant results. The difference was observed for; Pleasantness (\( \Delta = -1.09, S_e = 0.06 \)), meaning that pleasantness involved a lower desire for wanting to listen to self-identified sad music than unpleasantness, \( t(5443.33) = -18.30, \ p < .001 \); Attentional activity (\( \Delta = -0.56, S_e = 0.04 \)), meaning that the emotions in the high attentional activity group involved a lower desire for wanting to listen to self-identified sad music than emotions in the low attentional activity group, \( t(5443.33) = -13.74, \ p < .001 \); Situational control (\( \Delta = 0.47, S_e = 0.08 \)), meaning that emotions that were categorized in the individual control group involved a greater desire to listen to self-identified sad music than emotions that were categorized in the situational control group, \( t(5443.33) = 6.12, \ p < .001 \); Anticipated effort (\( \Delta = -0.43, S_e = 0.04 \)), meaning that the group of emotions for high anticipated effort involved less desire to listen to self-identified sad music, compared to low
CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC

anticipated effort, \( t(5443.33) = -10.60, p < .001 \); Self having control and responsibility as opposed to others having control and responsibility \( (\Delta = 0.22, S_e = 0.05) \), meaning that the group of emotions for self having control and responsibility involved a greater desire to listen to self-identified sad music compared to the emotions in the group for others having control and responsibility, \( t(5443.33) = 4.45, p < .001 \).

In sum, in line with our expectations it was observed that the extent to which people want to listen to self-identified happy and sad sounding music can be explained by the underlying appraisals of these emotions. Moreover, in line with the hypothesis it was observed that part of people’s music decision can be explained by making mood congruent selection for self-identified happy and sad music. In other words, a significance difference was found in relation to valence for happy and for sad music listening.

**Conclusion**

In the current research it was investigated whether the extent to which people want to listen to either self-identified happy or sad sounding music varies for the emotions that people experience and if this can be explained by the patterns of cognitive appraisal of these emotions. Survey data in the form of statements that were rated by a total of 606 people was analysed using statistical approaches and emotions were coded by using the findings of Smith and Elsworth (1985) concerning the cognitive appraisals of each emotion.

Based on the results of this study it can be concluded that the extent to which people want to listen to self-identified happy and sad sounding music varies for each emotion that people experience. Moreover, different scores were also observed for the extent to which people want to listen to either self-identified ‘happy’ or ‘sad’ music for
each specific emotion that occurred in the list. An interaction effect was observed between preference for listening to self-identified happy and sad music and different emotions. In line with expectations it seems that cognitive appraisals should be taken into account to explain why people’s preference to listen to music varies as a function of emotional state, and in order to understand how motivations to listen to self-identified happy and sad music can differ. For almost all opposite dimensions of appraisals (Smiths & Elsworth, 1985) statistical differences were observed on the rating on the extent to which people want to listen to happy and sad music. The results indicate that pleasant emotions cause people to listen to more music that is self-identified to portray happiness and unpleasant emotions cause people to listen to more music that is self-identified to portray sadness. People prefer to listen to both self-identified happy and sad sounding music to a greater extent when they are experiencing emotions that are appraised to be high on situational-control, high on others responsibility-and-control, or low on anticipated effort in comparison to when they are experiencing emotions of opposite dimensions of these appraisals. People want to listen to self-identified happy music to a greater extent when they experience emotions that are high on the appraisal attentional activity, however people preference for listening to self-identified sad music is greater for emotions that are appraised to be low on attentional activity. Preference for listening to self-identified happy music is greater for emotions that are appraised to be high on Certainty then for the emotions that can be categorised as low on this appraisal, but preference for self-identified sad music listening is not different for emotions that are either appraised high or low on certainty.
Discussion

Emotions and Motivation to Listen to Sad and Happy Music

The first aim of this research was to explore differences between preferences for self-identified happy and sad sounding music in relation to each of the rated emotions. To explore if each emotion plays a different role in the motivation to listen to self-identified sad and happy music, participants mean agreement scores of wanting to listen to self-identified happy and sad music were examined for each emotion. As expected it was found that there were variations on mean scores between each emotion for wanting to listen to self-identified happy music as well as for wanting to listen to sad music.

Emotions and Differences in Listening to Happy and Sad Music

It was next explored if preference for self-identified sad and happy sounding music differed across emotions, if people’s preference to listen to music in general varied across emotions, and if people’s preference to listen to music between different emotional states could be explained by differently underlying psychological mechanisms for self-identified happy and sad music (i.e. it was explored if there was an interaction effect).

In line with expectations and findings of previous research (Hunter et al., 2011; Husain, Thompson, & Schellenberg, 2002) it was observed that overall across emotions people show higher preference for listening to self-identified happy than to sad music. In line with expectations it was also observed that people’s preference for music listening varied across emotional state, which indicates the importance of investigating music in relation to appraisal tendencies. Moreover an interaction effect between music preference for self-identified happy and sad music and emotions was also observed, meaning that the extent to which people, want to listen to music can not just be explained by emotional state or preference for self-identified happy and sad music, but that happy and sad music
listening preference are explained by different underlying processes (Hunter, Schellenberg, & Griffith, 2011; Schellenberg, Peretz, & Vieillard, 2008, Van den Tol & Edwards, 2011).

To explore this interaction effect, several tests were conducted in which self-identified happy and sad music listening preference were compared across emotions. Based on these analyses it seemed that self-identified happy and sad music listening preference varied across each different emotion, which verified the importance of further investigation of happy and sad music preference in relation to appraisals of these emotions.

**Appraisals and Music Listening Preference**

To investigate the roles that appraisals play in explaining the extent to which people want to listen to either happy or sad music two multilevel analyses were conducted. One of these multilevel analyses was aimed at exploring how the dimensions on appraisals explained the extent to which people wanted to listen to happy music and the other multilevel analysis explored this for happy music listening.

**Pleasantness**

It was observed that when emotions were compared in two groups one group of emotions for the appraisals pleasantness and one group for unpleasantness, then people preferred to listing to self-identified happy music to a higher extent for the group of emotions that was appraised as pleasantness, whereas self-identified sad music listening was highest in the group of emotion that was appraised as unpleasant. It thus seemed that the distribution of mean scores that were observed for happy and sad music listening could partly be described by mood congruency behaviour tendencies (Bouhuys, et al., 1995). In line with findings from other research on music listening; Bradley, Mogg, &
CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC

Lee, 1997; Koster, et al., 2005; Vuoskoski & Eerola, 2011) it was observed that when people are experiencing a pleasant affective state then they preferred to listen to happy music listening to a greater extent than in comparison to when they are experiencing unpleasant affective states and that when people are experiencing an unpleasant affective state they preferred to listen to sad music to a greater extent than when they are in a pleasant affective.

Based on the analyses in which differences across self-identified happy and sad music preference were investigated across emotions, it was however also observed that when participants experienced contempt and fear - which are both considered unpleasant emotions (Smith & Elsworth, 1985) - then people rated more preference for listening to self-identified happy than to sad music, indicating that other factors beyond mood congruent tendencies should also be taken into to explain different patterns in happy and sad music preference across emotions.

**Self vs. Other Control/ Responsibility**

The extent to which people wanted to listen to self-identified happy and sad music was also explored in relation to the appraisal of Responsibility Control, which relates to the extent to which oneself or someone or something other than oneself seems to have been responsible/in control for causing an emotion. The results of this research showed that ‘self’ responsibility or control led to more music listening whereas ‘others’ responsibility or control led to less music listening.

Several researches have pointed out that Smith and Ellsworth’s (1985) concepts of control relate strongly to the concept of agency (Ortony, Clore, & Collins, 1988; Roseman, 1991; Watson & Spence, 2007). Watson and Spence (2007) describe agency as an overlapping term that includes both the appraisals ‘self vs. other control/
responsibility’ and ‘situational control’. They argue that ‘the appraised event may be referred to as self- caused other caused or circumstance caused’ (p. 497). It has been found that appraisals of agency explain to a great extent how a person will behave in a situation and also cope with stress (Yi & Baumgartner, 2004). For example, when someone appraises someone-else to be responsible or in control, people usually rather engage in problem-focussed-coping strategies than in emotion-focussed-coping-strategies (Keltner, Ellsworth, & Edwards, 1993; Lazarus, 1991 a; Ortony, et al., 1988). For example, when people are angry which is appraised as an emotion in which others are responsible and in control (Smiths & Ellsworth, 1985) people may often use the particular ‘problem-focused-coping-style’ of aiming unpleasant emotions towards the person that caused the problem in an attempt to try to let the other person solve the problem (Yi & Baumgartner, 2004). Whereas, when one appraises the self to be responsible of causing a negative event people will aim potential emotions towards the self and experience emotions such as regret, guilt, or shame they will then be more prone to engage in activities that help them to cope with these emotions called ‘emotions-focussed-coping’ (Smiths & Ellsworth, 1985).

These findings may also very likely explain music listening tendencies. Even though it has been found that music listening can serve a variety of coping strategies (Miranda & Claes, 2009), it has been argued that music listening can be primarily conceptualized as emotion-focused coping and as especially being important for regulating affect (North, Hargreaves & O’Neill, 2000; Saarikallio & Erkkilä, 2007; Van Goethem, 2010; Van den Tol & Edwards, 2010). Moreover, in situations where people experience negative emotions of which others are appraised to be responsible and in control, problem focused coping will probably be rather focused on actively solving the
problem then in listening to the music for advice (Miranda & Claes, 2009). In other words, the data of the current study suggest that using a problem solving strategy such as actively aiming unpleasant emotions towards the person that caused this feeling (Yi & Baumgartner, 2004) may in such situations be much more relevant than thinking how to solve a problem and using the lyrics of a song as a source of inspiration. As a form of emotional coping people may for instance decide to listen to happy music for direct mood repair of unpleasant feelings (Thayer, Newman, & McClain, 1994; Ter Bogt, et al., 2010) or to listen to sad music to be in touch and deal with negative feelings in order to cope with these feelings and accept them and eventually experience mood repair (Van den Tol & Edwards, 2011).

**Certainty**

The extent to which people wanted to listen to music was also explored in relation to the appraisal of Certainty which refers to the extent to which one feels able to predict, control and understand a situation in which an emotion occurs, versus uncertainty or the extent to which this is not the case. Results of the current study showed that people listened to self-identified happy music for a greater extent for the group of emotions that scored high on certainty. The appraisals certainty or uncertainty did however not yield different results for the extent to which people wanted to listen to self-identified sad music.

Research on appraisals of certainty and uncertainty shows that behaviour of people who are experiencing uncertainty is primarily motivated by a motivation to reduce uncertainty (Tiedens & Linton, 2001) and that people’s motivation to reduce uncertainty is greater than their motivations for repairing mood (Tiedens & Linton, 2001). Moreover, research on cognitive processing shows that people typically use more ‘top-down
processing’ when they appraise their situation to be certain than when they appraise their situation to be uncertain. Thus, people rely more on their own experiences and use more heuristic processes when they have to make a decisions in a situation that they appraise to be certain (Bodenhausen, Sheppard & Kramer, 1994; Tiendes & Linton, 2001). Whereas people use more bottom-up processing styles and systematic thinking when they appraise a situation to be uncertain (Bodenhausen, Sheppard & Kramer, 1994; Tiendes & Linton, 2001). Research also shows that positive valence moods are leading to more heuristic thinking or top-down processing (Martin et al, 1993). These psychological processes may very well explain lowered preference for happy music when people are feeling uncertain. Music typically induces the emotions it portrays (Thayer, Newman, & McClain, 1994; Ter Bogt, et al., 2010; Van den Tol & Edwards, 2011) whereas this is especially the case for happy music (Van den Tol & Edwards, 2011, Chapter 5). In other words engaging in happy music listening can induce happy moods, whereas a happy mood can be a disadvantage for the cognitive processes that people want to engage in for dealing with their uncertainty. Whereas people who are dealing with uncertainty will first try to reduce their feelings of uncertainty before engaging in mood enhancement and will therefore try to avoid happy music.

**Attentional Activity**

The extent to which people wanted to listen to self-identified happy and sad music was also explored in relation to the appraisal of *attentional activity*, which refers to the extent to which something draws one’s attention, versus repels one’s attention. Higher attentional activity led to a greater preference to listen to self-identified happy music then lower attentional activity, but higher versus lower attentional activity led to less self-identified sad music listening. The cognitive awareness hypothesis states that the
CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC

Appraisal of attention in general refers to focus of one’s consciousness and receptivity (Kahneman, 1973), and asserts that for unpleasant emotions attention will be reduced when a problem has been solved or when no practical solution is observe for solving a problem (Lerner & Keltner, 2000). In other words attention is low and appraisal tendencies will be deactivated when problems are solved or when problem solving coping is not an option.

Interestingly, when comparing this appraisal to all the other appraisals, one should note that this appraisal relates strongest to the pleasantness appraisal dimension. Specifically, all the positively valence emotions that were investigated in this research could be categorised as high on attentional activity (Smith & Ellsworth, 1985), whereas some of the unpleasant emotions were high and some were low on attentional Activity. Partial overlap of this appraisal with the appraisal of pleasantness may potentially explain the relatively similar results. In sum these results are very likely mediated by mood congruency effect that was observed on the valence dimension.

**Anticipated Effort**

The extent to which people wanted to listen to self-identified happy and sad music was also explored in relation to the appraisal of *Anticipated effort*, which refers to the extent to which physical or mental activity are expected to be needed when an emotion is experienced (or the extent to which mental activity is not needed. It was found that the extent to which people wanted to listen to self-identified happy and sad sounding music was higher when participants experienced emotions that were low on the appraisal of ‘anticipated effort’ whereas this extent was lower when they experienced emotions high on this appraisal. Watson and Spence (2007) suggested that the concept of anticipated effort relates to what other researchers (Frijda, 1987; Nyer 1997; Scherer, 1988)
described as ‘coping potential’ a term that refers to the possibility for problem-solving-coping. Similarly, literature on coping tendencies relates higher anticipated effort with problem solving coping (Yi & Baumgartner, 2004). Hence, it is suggested that high anticipated effort leads to more problem solving coping and therefore leads to less music listening, whereas low anticipated effort leads to more emotional coping and therefore leads to more music listening.

**Situational Control**

In the current research it was also investigated if people’s preference to listen to self-identified happy and sad sounding music were different in relation to the appraisal of *Situational Control*, which refers to the extent to which the event that causes the emotions seem to be caused by individual agency versus situational agency. The results of the current research showed that people generally rated their preference to listen to self-identified happy and sad music as greater when they were experiencing emotions that were grouped as individual control then when they experienced emotions which were grouped as situational control.

It has been argued that when the self is viewed as responsible then people are more likely to use an emotional coping style than a problem solving coping strategy (Yi & Baumgartner, 2004). When the self is responsible it is often too late for problem solving coping as harm has already been done. Or in other words when emotions are appraised as being high on situational control then problem solving coping is not an option and people will turn to emotional coping (Yi & Baumgartner, 2004) such as in the form of listening to music (North, Hargreaves & O’Neill, 2000; Saarikallio & Erkkilä, 2007; Van Goethem, 2010; Van den Tol & Edwards, 2010). As music listening is less useful for problem-solving-coping (North, Hargreaves & O’Neill, 2000) people will
CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC

rather turn towards other coping styles in situations where others are viewed as responsible and in control (North, Hargreaves & O’Neill, 2000).

Some Exceptions

Disgust

According to theory on cognitive appraisals disgust is classified as a negative emotion that is high on certainty (Smith & Elsworth, 1985). Yet the theory that is formed in the current research in relation to certainty can not explain why people who experience disgust do not listen to more self-identified happy music than most other people who experience unpleasant emotions. Moreover, people who are experiencing disgust do also not like to listen to self-identified sad music to the same extent as people who experience other unpleasant emotions. Disgust is typically characterized by withdrawal, as disgust is triggered by close physical proximity to unpleasant stimuli, or people (Lazarus, 1991 b) and does typically leads to a very strong shut down reaction blocking out any new stimuli (Lerner, et al., 2004; Rozin, Haidt, & McCauley, 1993). It is thus very likely that the current findings on music listening can be explained by a shutdown reaction in relation to all stimuli including music.

Pride in Achievement

Pride in Achievement scores high on responsibility control, indicating that the self is responsible in control and also low on anticipated effort. Based on the current results this might indicate an increase in music listening based on that no problem focused coping is anticipated, however this increase was only very strong for happy music listening and not for sad music listening. One explanation may be, that when people feel pride they have a very strong focus on the self even stronger than when experiencing other pleasant emotions (Smith & Elsworth, 1985), making people less likely to identify
CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC

with others or concentrate on stimuli outside the self and less likely to identify with sad people or sad music. This may be very likely as in recent research it was found that social functions such as feeling connection with other human beings are important for engaging in music listening (Saarikallio & Erkkilä, 2007; Van den Tol & Edwards, 2011) and especially for engaging in sad music. It has for example been found that one of the most important reasons why people listen to sad music when feeling sad is because they can identify with lyrics, giving them a sense of connection with other humans who experiences problems (Van den Tol & Edwards, 2011).

Contributions, Limitations, and Future Directions.
The aim of this research was to explore the potential role that emotions and appraisals play in the extent to which people want to listen to self-identified happy and sad music. This research has been conducted with a focus on generating new debate and to catalyse new theory testing, and despite the lack of research in the current field of investigation. Several interesting new observations have been conducted in relation to music listening. In line with the expectations, findings suggest that patterns of cognitive appraisal are important processes to take into account for understanding music listening behaviour and also for explaining specific preference for happy and sad music listening behaviour. One of the limitations in relation to the current research was that causality can not naturally be inferred based on the current data. Future research could be conducted with experimental designs to measure causal relations that are proposed in the current research. It would additionally be interesting to conduct such follow-up research with Experience Sampling Methodology (ESM) (Hektner, Schmidt, & Csikszentmihalyi, 2006) or in a setting where people have to make real decision to either listen to music and have to indicate if this music sounded sad or not. Moreover follow up research may also be conducted in the
CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC

form of experiments, of which experimental conditions are measuring differences between opposite appraisals.

In terms of other interesting follow-up research, future research might also investigate people’s preference to listen to music that is portraying other emotions. This might especially be very interesting in relation to music that portrays anger as anger is a negatively valence emotion that is associated with a different set of cognitive appraisal than sadness, whereas some of the cognitive appraisals in relation to anger are similar to happiness (Smith & Ellsworth, 1985). Future research may additionally explore interaction effects between different dimensions of cognitive appraisal and potentially even explore three-way interactions (Agrawal, Menon, & Aaker, 2006) wherein appraisal dimensions have multiplicative rather than additive effects on decision outcomes.
CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC

References Chapter 5


CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC


CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC


CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC


CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC


CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC

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CHAPTER 5: LISTENING TO HAPPY AND SAD MUSIC


### Appendix Chapter 5

**Overview of Appraisals Dimensions as proposed by Smith and Ellsworth (1985)**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Unpleasant/Unpleasant Description</th>
<th>Pleasant/Pleasant Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pleasantness</td>
<td>Evaluating the current affective state to be unpleasant</td>
<td>Evaluating the current affective state to be pleasant</td>
</tr>
<tr>
<td>Responsibility</td>
<td>Appraising someone or something other than oneself to have been responsible/in control for causing an emotion</td>
<td>Appraising oneself to have been responsible/in control for causing an emotion</td>
</tr>
<tr>
<td>Control</td>
<td><strong>other than oneself</strong> to have been responsible/in control for causing an emotion</td>
<td></td>
</tr>
<tr>
<td>Certainty</td>
<td><strong>Certainty:</strong> Feeling able to predict, control and understand a situation in which an emotion occurs</td>
<td><strong>Uncertainty:</strong> Not feeling able to predict, control and understand a situation in which an emotion occurs</td>
</tr>
<tr>
<td>Attentional</td>
<td><strong>High attentional activity:</strong> The situation and emotion attracts one’s attention</td>
<td><strong>Low attentional activity:</strong> The situation and emotion repels one’s attention</td>
</tr>
<tr>
<td>Anticipated</td>
<td><strong>High anticipated effort:</strong> Physical or mental activity are expected when an emotion is experienced.</td>
<td><strong>Low anticipated effort:</strong> Physical or mental activity are not expected when an emotion is experienced.</td>
</tr>
<tr>
<td>Situational</td>
<td>the event that causes the emotions seem to be caused <strong>situational</strong> control</td>
<td>the event that causes the emotions seem to be caused by <strong>individual</strong> control</td>
</tr>
</tbody>
</table>
Table 3.2:

Categorisation of emotion on appraisals dimensions based on findings by Smith and Ellsworth (1985)

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Pleasant</th>
<th>Self – Other Responsibility/Control</th>
<th>Certainty</th>
<th>Attentional Activity</th>
<th>Anticipated Effort</th>
<th>Situational Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happiness</td>
<td>Pleasant</td>
<td>Self</td>
<td>Certain</td>
<td>High</td>
<td>low</td>
<td>Individual</td>
</tr>
<tr>
<td>Sadness</td>
<td>Unpleasant</td>
<td>Other</td>
<td>Certain</td>
<td>Low</td>
<td>low</td>
<td>Situationa l</td>
</tr>
<tr>
<td>Anger</td>
<td>Unpleasant</td>
<td>Other</td>
<td>Certain</td>
<td>High</td>
<td>High</td>
<td>Individual</td>
</tr>
<tr>
<td>Fear</td>
<td>Unpleasant</td>
<td>Other</td>
<td>Certain</td>
<td>High</td>
<td>High</td>
<td>Situationa l</td>
</tr>
<tr>
<td>Contempt</td>
<td>Unpleasant</td>
<td>Other</td>
<td>Certain</td>
<td>High</td>
<td>Low</td>
<td>Individual</td>
</tr>
<tr>
<td>Disgust</td>
<td>Unpleasant</td>
<td>Other</td>
<td>Certain</td>
<td>Low</td>
<td>High</td>
<td>Individual</td>
</tr>
<tr>
<td>Surprise</td>
<td>Pleasant</td>
<td>Other</td>
<td>Certain</td>
<td>High</td>
<td>Low</td>
<td>Situationa l Control</td>
</tr>
<tr>
<td>Pride</td>
<td>Pleasant</td>
<td>Self</td>
<td>Certain</td>
<td>High</td>
<td>Low</td>
<td>Individual</td>
</tr>
<tr>
<td>Shame</td>
<td>Unpleasant</td>
<td>Self</td>
<td>Certain</td>
<td>Low</td>
<td>High</td>
<td>Individual</td>
</tr>
<tr>
<td>Guilt</td>
<td>Unpleasant</td>
<td>Self</td>
<td>Certain</td>
<td>Low</td>
<td>High</td>
<td>Individual</td>
</tr>
</tbody>
</table>
Table 3.3:

Descending Mean Preference for Wanting to Listen to Music that is Self-identified to Portrays Happiness or Self-identified to Portrays Sadness When Experiencing Different Emotions.

<table>
<thead>
<tr>
<th>Preference for happy music among different emotions</th>
<th>Preference for sad music among different emotions</th>
<th>M (SD)</th>
<th>M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happiness</td>
<td>Sadness</td>
<td>4.69</td>
<td>4.00</td>
</tr>
<tr>
<td>(0.73)</td>
<td>(1.32)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pride in achievement</td>
<td>Guilt</td>
<td>4.13</td>
<td>3.07</td>
</tr>
<tr>
<td>(1.17)</td>
<td>(1.44)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surprise</td>
<td>Shame</td>
<td>3.24</td>
<td>3.02</td>
</tr>
<tr>
<td>(1.27)</td>
<td>(1.47)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sadness</td>
<td>Anger</td>
<td>3.05</td>
<td>2.88</td>
</tr>
<tr>
<td>(1.44)</td>
<td>(1.48)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contempt</td>
<td>Disgust</td>
<td>2.79</td>
<td>2.63</td>
</tr>
<tr>
<td>(1.32)</td>
<td>(1.43)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear</td>
<td>Contempt</td>
<td>2.69</td>
<td>2.46</td>
</tr>
<tr>
<td>(1.47)</td>
<td>(1.25)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anger</td>
<td>Fear</td>
<td>2.52</td>
<td>2.45</td>
</tr>
<tr>
<td>(1.45)</td>
<td>(1.41)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guilt</td>
<td>Happiness</td>
<td>2.12</td>
<td>2.047</td>
</tr>
<tr>
<td>(1.27)</td>
<td>(1.21)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disgust</td>
<td>Surprise</td>
<td>2.11</td>
<td>2.00</td>
</tr>
<tr>
<td>(1.28)</td>
<td>(1.02)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shame</td>
<td>Pride in achievement</td>
<td>1.91</td>
<td>1.79</td>
</tr>
<tr>
<td>(1.17)</td>
<td>(1.08)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANOVA</td>
<td>ANOVA</td>
<td>F(9,593)</td>
<td>F(9,593)</td>
</tr>
<tr>
<td>Results</td>
<td>Results</td>
<td>=126.065</td>
<td>=126.065</td>
</tr>
<tr>
<td>p=0.000</td>
<td>p=0.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3.4:

Desire to Listen to Self-identified Happy Sounding Music

Listening and Self-identified Sad Sounding Music Compared

for Each Emotion.

<table>
<thead>
<tr>
<th></th>
<th>Music Listening</th>
<th>Difference Between Happy and Sad Music</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Happy music</td>
<td>Sad music</td>
</tr>
<tr>
<td>Happiness</td>
<td>4.69 (0.73)</td>
<td>2.04 (1.21)</td>
</tr>
<tr>
<td>Pride in achievement</td>
<td>4.13 (1.17)</td>
<td>1.79 (1.08)</td>
</tr>
<tr>
<td>Surprise</td>
<td>3.24 (1.27)</td>
<td>2.00 (1.02)</td>
</tr>
<tr>
<td>Sadness</td>
<td>3.05 (1.44)</td>
<td>4.00 (1.32)</td>
</tr>
<tr>
<td>Contempt</td>
<td>2.79 (1.32)</td>
<td>2.46 (1.25)</td>
</tr>
<tr>
<td>Fear</td>
<td>2.69 (1.47)</td>
<td>2.45 (1.41)</td>
</tr>
<tr>
<td>Anger</td>
<td>2.52 (1.45)</td>
<td>2.88 (1.48)</td>
</tr>
<tr>
<td>Guilt</td>
<td>2.12 (1.27)</td>
<td>3.07 (1.44)</td>
</tr>
<tr>
<td>Disgust</td>
<td>2.11 (1.28)</td>
<td>2.63 (1.43)</td>
</tr>
<tr>
<td>Shame</td>
<td>1.91 (1.17)</td>
<td>3.06 (1.44)</td>
</tr>
</tbody>
</table>

_Note:_ * = p < .05, ** = p < .01 *** = p < .001 (two-tailed). Standard Deviations appear in parentheses below means.
### Table 3.5:

**Appraisals and Desire to Listen to Self-identified Happy Sounding Music**

<table>
<thead>
<tr>
<th>Music</th>
<th>Δ</th>
<th>SE</th>
<th>t(5444.33)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valence</td>
<td>0.48</td>
<td>0.06</td>
<td>7.99</td>
<td>.000</td>
</tr>
<tr>
<td>Responsibility/control</td>
<td>0.62</td>
<td>0.05</td>
<td>12.25</td>
<td>.000</td>
</tr>
<tr>
<td>Certain</td>
<td>0.66</td>
<td>0.06</td>
<td>10.98</td>
<td>.000</td>
</tr>
<tr>
<td>Attention</td>
<td>0.44</td>
<td>0.04</td>
<td>10.80</td>
<td>.000</td>
</tr>
<tr>
<td>Effort</td>
<td>-0.68</td>
<td>0.04</td>
<td>-16.62</td>
<td>.000</td>
</tr>
<tr>
<td>Situational control</td>
<td>0.79</td>
<td>0.08</td>
<td>10.32</td>
<td>.000</td>
</tr>
</tbody>
</table>
Table 3.6:

*Appraisals and Desire to Listen to Self-Identified Sad Sounding music*

<table>
<thead>
<tr>
<th>Desire to listen to sad music</th>
<th>$\Delta$</th>
<th>$S_e$</th>
<th>$t$(5443.33)</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valence</td>
<td>-1,09</td>
<td>0,06</td>
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Chapter 6

Discussion
CHAPTER 6: DISCUSSION

Discussion

Several recent studies provide evidence that the appeal of sad-sounding music increases when people are in a negative mood state or when feeling sad (Saarikallio & Erkkilä, 2007; Saarikallio, 2010; Schellenberg et al., 2008; Hunter, Schellenberg & Griffith, 2011). The research reported in the current thesis aimed to investigate the psychological processes that are involved in people’s sad music listening behaviour when they already feel sad, as well as the effects that listening to music that is self-identified to sound sad has on people. This was examined from a multi-method empirical perspective (Creswell, et al., 2003). For that purpose, three empirical studies and a literature review were conducted.

Below, a brief outline is provided of the findings of the literature review and the findings that emerged from each empirical study. Then the main findings of each study are discussed in relation to the research questions of this thesis. Then an overview of the theoretical and practical contributions to the field and implications of the current findings is provided. Finally, an overview of the limitations of the current findings and possibilities for future research based on the findings of the current thesis is presented.

Summary of Findings

Chapter 2: Literature review

The literature review conducted for the current thesis provided important insights on; music listening in everyday life, affect and music, and about self-regulation and music. It was possible to conclude that music listening plays a very important role in everyday life. Music can be used to convey a variety of psychological and physiological reactions, and music listening seems to play a particularly important role in self-
regulation and to regulate affect. Music listening conveys a variety of affective responses to listeners, but these responses are not always similar to the affect portrayed by the music and the emotions that the musicians try to portray. Music preference and taste vary as a function of personal and dispositional factors. Based on the literature review it can be concluded that the investigation of sad music listening is an important topic for further investigation, as no research has been conducted with the aim of investigating the underlying psychological process that motivate sad music listening. In sum, this literature review sets the stage for conducting several empirical studies to examine people reasons for and effects of listening to music that is identified to portray sadness when feeling sad.

Chapter 3: Exploring a Rationale for Choosing to Listen to Sad Music When Feeling Sad

The main aim of this explorative empirical study was to broadly explore the research question of this thesis. The research focus was thus to examine the motivations that people described for listening to self-selected music they identified as sad, particularly when experiencing sadness, and the self-reported effects of this activity (Chapter 3; Van den Tol & Edwards, 2011). This study was designed as a modified Grounded Theory approach (Corbin & Strauss, 1990; Strauss & Corbin, 1990). People were asked to respond to an online survey and their narrative reports were analysed in order to develop theory. Responses were received from 65 people across five countries. The analysis resulted in discovering two groups of ‘meta-categories’. One group of categories reflects the self-regulation strategies served by music listening, and the other group describes the functions served by the music.

The emerging selection strategies included the strategies of: Connection, meaning selecting music because the music portrays affect or has lyrics that the listener can
identify with at that moment. Memory Triggers, referring to the selection of music because the music is associated with specific episodic memories. High Aesthetic Value, which involves selecting the music because one perceives the music to be ‘good’ or ‘beautiful music. Finally, Message Music, which implies selecting music because one wants to be inspired by message that the music communicates.

The functions of self-selected sad music listening that emerged in the analysis were: (Re-) experiencing Affect, which means getting in touch with or intensifying affective states. Social, reflecting that one tries to feel closer or emotionally connected to people. Mood-enhancement, which involved making one feel better or less bad. Retrieving Memories, which means retrieving episodic memories associated with the music. Cognitive, which refers to the use of music for cognitive reappraisal. Friend, which means that the music can serve as a symbolic friend. And Distraction, which refers to the use of music for distraction and keeping the mind of from unwanted feeling and thoughts.

The explanatory model that was presented in the result section of this study provided an overview of how different factors play a role in self-regulation, why self-selected sad music listening can be explained by a utilitarian paradigm, and it also suggested how listening to music that is identified to sound sad can result in affective change. Based on this model it becomes clear that in order to understand why people listen to music one should take into account personal and situational factors. These personal and situational factors determine people’s momentarily goals. People’s momentarily goals determine people’s music selection strategies. Music selection strategies can either result in successful or unsuccessful realisation of goals. Whereas, successful realisation of goals can have an additional positive affect on affective state,
and unsuccessful realisation of goals can have an additional negative effect on people affective state.

Chapter 4: Listening to Sad Music in Adverse Situations: Music Selection Strategies, Self-Regulatory Goals, and Listening Effect

The aim of this empirical study was to further examine the relation between music selection strategies, the functions of self-selected sad music, and mood-enhancement. In addition, it was investigated which of the strategies were most often used for the selection of music that is identified to portray sadness, which effects were most often experienced and which goals were most often pursued. Participants (\(N = 220\); representing 22 countries) were gathered on the internet via an online survey. Participants recalled an adverse emotional event after which they had listened to self-selected music they identified as sad, particularly when experiencing sadness, and then rated several statements in relation to their music listening. The content of these rated statements were based on insight from the previous research on music listening. Statistical analyses largely confirmed the earlier proposed distinction of goals, effects, and strategies. Findings indicated that the most important listed functions of listening to self-identified sad music were \((re-)\) \textit{experience affect} and \textit{retrieving memories} and the most important listed music selection strategies were \textit{connection} and \textit{memory triggers}. Findings also indicated that people select sad music with a music selection that is perceived to be most effective for achieving their self-regulatory goals.

It was found that \textit{mood-enhancement} may often result as an \textit{indirect} effect of achieving psychological functions through music listening, rather than as a result of the music itself. The extent to which \textit{mood-enhancement} is a direct or indirect effect achieved by sad music listening is dependent on which selection strategy is used. The
functions which mediated mood-enhancement were assessed and it was found that both cognition and distraction did so. It was observed that only when music was selected based on high aesthetic value, then mood-enhancement was a significant direct function achieved by music listening. Based on these results it can be theorised that self-selected sad music listening may usually foster mood-enhancement by providing people with a platform for cognitive re-appraisal or for distraction of current feelings and thoughts.

Chapter 5: On the Roles of Emotions and Appraisal in Relation to Happy and Sad Music Listening

The aim of this empirical study was to get a broader perspective on people’s reasons for listening to self-identified sad music by investigating if people’s motivation to listen to music that portrays happiness or music that portrays sadness varies as a function of emotional states, and if cognitive appraisals of these emotions play a role in people’s motivations for music listening. The data collected for this study was of a quantitative nature. People were invited to volunteer in an online survey that investigated people’s music preference among different emotional states though rating statements on a 5-point likert-scale. Responses were received from 606 people across 60 countries.

The extent to which people wanted to listen to self-identified happy and sad sounding music varied depending on the emotions that people experience. Moreover, different scores were observed on the extent to which people want to listen to either ‘happy’ or ‘sad’ music for each specific emotion. The results of this study indicated that the underlying appraisals of emotions are important for explaining the differences between music preference across different emotional states. Pleasant emotions caused people to listen to more happy music and unpleasant emotions caused people to listen to more music that portrayed sad music. High attention led to wanting to listen to more
happy music, but to less sad music listening. It was proposed that the partial overlap of high attention with the appraisal of pleasantness might potentially explain the relatively similar results, which provides an avenue for future research. In addition to these findings, high certainty related to more happy music listening, but certainty had no effect on the extent to which people wanted to listen to sad music. It was suggested that findings on certainty can probably be explained by people’s tendency for processing information (Bodenhausen, Sheppard & Kramer, 1994) and the role that affective state plays in cognitive processes (Tiendes & Linton, 2001). High situational-control, high others vs. self-responsibility-and-control, and low anticipated effort were all positively related to both more happy and sad music listening. Yi and Baumgartner (2004) suggested that these appraisals may cause more emotional-coping and less problem-solving-coping. Previous findings suggest that music listening appears to be more effective for affect-regulation or emotional-coping than for introspection or problem-solving-coping (North, Hargreaves & O’Neill, 2000; Miranda & Claes, 2009; Van Goethem, 2010; Van Goethem & Sloboda, 2011). It was suggested that this may explain why the appraisals High situational-control, high others vs. self-responsibility-and-control, and low anticipated effort are all related with more happy and sad music listening.

In sum, the results of this study provided several important insights in people’s preference to listen to self-identified happy and sad sounding music among different emotional states and on music listening behaviour in relation to appraisal theory and coping strategies.
Conclusions: Why do People Listen to Sad Music?

The main question that has been focused on in this PhD thesis research was; ‘Why do people sometimes listen to sad music when they are feeling sad and what are the effects of this on them?’ In this thesis there was focused on answering this question from a psychological point of view.

Based on the summary of findings that are outline above it becomes clear that several factors are important in order to understand sad music listening behaviour when feeling sad. First of all, it becomes clear that the decision to listen to music - rather than not to listen to music - can for a great extent be explained by the possibility to engage in affect-regulation and emotional coping (Chapter 2; Chapter 5). However, people have many other self-regulatory reasons for listening to music that go beyond emotional coping and affect regulation (Chapter 2). Moreover, listening to self-identified sad sounding music can have a variety of important functions which make people decide to engage in this behaviour. These functions (listed from most to least important in relation to listening to music when feeling sad) are as follows; (re-)experiencing affect, cognitive, social, retrieving memories, friend, distraction, and mood-enhancement (Chapter 3; Chapter 4; Van den Tol & Edwards, 2011).

Depending on the self-regulatory functions that people are striving for when listening to sad music people engage in a variety of music selection strategies. The music-selection strategies are: connection, selecting music based on memory triggers, high aesthetic value, and message communicated (Chapter 3; Chapter 4; Van den Tol & Edwards, 2011). In order to understand people’s music selection strategies, one should consider a person’s momentary needs and goals (Chapter 3; Van den Tol & Edwards, 2011). Whereas peoples momentary needs and goals do often vary as a function of
specific situational factors as well as dispositional factors (Chapter 3; Van den Tol & Edwards, 2011). Moreover, in order to understand people’s self-regulatory goals in relation to the emotional reaction that music they identify to sound sad can entail one should additionally take into account the effects that successful and unsuccessful realisation of functions that were pursuit have on people’s affective state (Chapter 3; Chapter 4; Van den Tol & Edwards, 2011). More specifically, both ‘cognition’, and ‘distraction’ are identified as functions that are very likely to result in mood-enhancement when people successfully achieve these by music listening (Chapter 4). It was additionally found that high aesthetic value is the most successful selection strategy for achieving mood-enhancement (Chapter 4).

In relation to the decision to either listen to music that is self-identified to sound sad or happy several insights have been gathered: First, it becomes clear that people’s motivation to rather listen to music they identify to sound sad than to music they identify to sound happy when feeling sad can largely be explained by the preference for stimuli with a similar valence depending on affective state. Thus, results on happy and sad music listening preference across different situations are consistent with the predictions of mood congruency theory (Chapter 5). The decision to either listen to music that is identified to sound happy or sad can also be explained by the other functions that are specific to sad music, such as the opportunity to retrieve specific (sad) memories attached to the sad music when one feels sad (Chapter 3; Chapter 4; Van den Tol & Edwards, 2011).

In sum, a complex interaction of factors has to be taken into account in order to explain people motivations to decide to music they identify to portray sadness when feeling sad.
 Contributions and Implications

The main question that has been focused on in this PhD thesis research was to explore the psychological processes that guide people’s motivations for listening to sad music when feeling sad, and to also investigate the effects that self-selecting to listen to sad music has on people. No research so far has specifically focused on investigating people’s sad music listening behaviour. Hence the current research makes a substantial contribution to psychological theory by providing new theory on a subject that so far has been relatively unexplored. The findings lay the foundation to generate new theory in relation to practical implications and may additionally impact on the work of music therapist, psychologist and on society by educating people on this subject. The research presented in this thesis provides crucial insights for understanding people’s sad music listening behaviour when feeling sad and makes several contributions to current debate and theory development. The findings of the current thesis also have several theoretical implications on current knowledge. An overview of these implications and contributions is provided in the paragraphs below.

New Perspectives on On-going Debates

At present there is a lot of interest into the power of music as reflected in numerous conferences and publications. Some mysteries remain unsolved and debates continue in relation to the mechanisms through which music can have an influence on humans. New perspectives will be offered to some of the current debates in this part of the thesis through reflecting on the studies undertaken and the conclusions reached.

Music Induced Affective States

Results of the current thesis have implications on understanding the mechanisms through which music listening can induce and change affective states in people. Juslin
and Västfjäll (2008) suggested that seven psychological mechanisms explain how music listening can convey and change emotions and affective state in people. These mechanisms are brain stem reflexes, evaluative conditioning, emotional contagion, visual imagery, episodic memory, musical expectancy and cognitive reappraisal. Based on the current findings one new mechanism can be added to the list provided by Juslin & Västfjäll (2008) of psychological processes through which music can change or induce effect. The current research has provided evidence that music listening can additionally change a listener’s affective state through the indirect psychological processes of helping people to concentrate their feeling and thoughts on the music instead of for example their own sorrow (Chapter 4).

Moreover, based on the empirical study (Chapter 4) in which data was gathered in order to study the relation of music selection strategies and the functions of music even further, some of the psychological mechanisms explained by Juslin and Västfjäll (2008) can be described in more detail. More specifically, it was found that both the functions cognition, and distraction can mediate mood-enhancement, and that only when music is selected based on high aesthetic value, then mood-enhancement was a significant direct function achieved by music listening. These results are novel as they provide more insights on how music listening can either be used as a direct and indirect psychological processes for regulating affective state.

**Aesthetic or Utilitarian Emotions?**

Results of the current thesis have implications on understanding the differences between emotions that are musically induced, and emotions of everyday life. Scherer (2004) indicated that emotions caused by music are different to emotions that are generally experienced in everyday life. Scherer argues that emotions can be distinguished
in two types; *Aesthetic emotions*, which are the emotions that are mainly experienced when people experience an artistic work or when hearing music, and *Utilitarian emotions*, which happen in relation to goals and cognitive appraisal of a situation. Scherer (2004, p. 6) suggest that the major difference between utilitarian and aesthetic emotions:

[…] consists in the absence of appraisals concerning goal relevance and coping potential in the case of the latter. In other words, an aesthetic experience is one that is not triggered by concerns with the relevance of a perception to my bodily needs, my social values, or my current goals or plans, nor with how well I can cope with the situation, but one where the appreciation of the intrinsic qualities of a piece of visual art or a piece of music is of paramount importance.

Moreover, in this and follow-up work it has been argued that music induced emotions are more often aesthetic than utilitarian (Scherer & Zetner, 2008), with some notable exceptions. For example, Scherer (2004) reflected on the situation where one is annoyed about loud music played by other people. In this situation the emotions experienced are not induced by the music but rather experienced as a result of appraising the music as undesirable to hear given one’s current goals and desires.

Importantly, Scherer did not reflect on the self-regulatory functions that music can provide in his argument. Based on the literature review and empirical research conducted for the current thesis it seems that aesthetic emotions can be *motivated* by concerns with the relevance of a perception to ones bodily needs, social values, or current goals or plans, and with how well people can cope with a situation. Meaning that the appreciation of the intrinsic qualities of a piece of visual art or a piece of music can function ones needs.
CHAPTER 6: DISCUSSION

It additionally appears that emotions caused by listening to music can often be experienced during and after listening to music that is identified to portray sadness as a result of self-regulation processes. One can therefore argue that; in all cases in which one experiences mood-enhancement as a result of achieving ones self-regulatory goals then mood-enhancement occurs because of the music listening but could be categorized as a utilitarian experience (Chapter 3; Chapter 4; Van den Tol & Edwards, 2011). More precisely, based on both the narrative data and correlational data gathered for the current thesis (Chapter 3; Chapter 4: Van den Tol & Edwards, 2011) evidence has been provided that mood-enhancement is sometimes experienced because one ‘appraises’ ones self-regulatory goals for listening to music to be satisfied. Based on the findings of the current research one may argue that the happy emotions that are experienced as a result of sad music listening are probably often ‘utilitarian emotions’ as most of these positively valence emotions occur when people feel better as a result of achieving ones self-regulatory goals. Thus, the current research contributes to understanding emotional responses to music by providing a new perspective on to what extent and in which situations ‘music induced emotions’ are either ‘utilitarian’ or ‘aesthetic’.

Practical Implications

Music listening is often used in music therapy settings (Grocke & Wigram, 2007; Plach, 1996). Hence, empirical research that focuses on understanding the psychological processes that guide music listening and empirical research on the effects of music listening is of high relevance for music therapists (Juslin & Västfjäll, 2008; Plener, et al, 2010). For example, a variety of studies have already shown that music listening can be used effectively in therapy settings to help people with grief processes (Dalton & Krout, 2006; Plener, et al, 2010; Skewes, 2001). Clinical studies have shown that not being able
to adequately cope with stressful life situations can contribute to developing a variety of clinical disorders (Kross, Davidson, Weber, & Ochsner, 2009). Hence, knowledge about the ways in which people use music to self-regulate may also be important for people who work in mental healthcare, such as for clinical therapist, as for many people music listening plays an important role in coping with everyday life stress (North, Hargreaves, & O’Neill, 2000; Miranda, & Claes, 2009; Saarikallio & Erkkilä, 2007; Thayer, Newman, & McClain, 1994; Van Goethem & Sloboda, 2011). It is expected that this research will inform the work of music therapists and others who work in mental healthcare by proving scientific data and frameworks for further refining useful treatments. This research is hoped to also contribute to society by educating people on the way that they can use music for self-regulation and coping.

To conclude, there are a range of practical implications associated with this research. Below an overview is provided of the practical contributions and applications that the research discussed in the current thesis can have.

**Music Listening: Coping and Psychopathology**

There is a growing interest in the investigation of the use of music for coping and self-regulation (Miranda & Claes, 2009; North, Hargreaves & O’Neill, 2000; Saarikallio & Erkkilä, 2007; Van Goethem, 2010). Inadequate coping styles are more prevalent among people who have been diagnosed with psychopathology (Johnson-Laird, Mancini & Gangemi, 2006; Kross, Davidson, Weber, & Ochsner, 2009; Scheurs, Van de Willige, et al., 1993). Therefore, knowledge about adequate coping behaviour can contribute to psychological wellbeing of people in society by providing information about optimal music uses to manage emotional states.
In the final empirical study of the current thesis, we looked at music that was identified to portray happiness, and sadness, different emotional states, the appraisals of these emotional states, and at how music can function to cope (Chapter 5). Results of that study provided information on how happy music listening and sad music listening related to appraisals of emotions. The decision to engage in music listening or no music listening could partly be explained in terms of tendencies to use certain coping strategies. Importantly these findings suggested that when we want to understand people’s motivations for listening to either music they identify to sound happy or sad music when they are experiencing different emotional states we should not just try to predict behaviour by looking at valence and arousal, but researchers should extend their research focus, such as, through also looking at other relevant situational variables such as appraisal tendencies and relevant coping strategies. Moreover, the results of two of the others study that were conducted for this PhD thesis have shown that listening to self-identified sad music served a set of functions that are varying in order of importance than the functions of music in general. Indicating that we should also look at the value of the music it self when we want to understand music listening behaviour (Chapter 3; Chapter 4; Van den Tol & Edwards, 2011).

In sum, it is expected that the findings of the current research can be useful for the development of new theory in relation to therapy development. It is expected that these findings additionally spark new research in relation to other areas as well such as on music listening behaviour, affect, and self-regulation. In what comes next a detailed overview will be given on the contributions of the current research in relation to coping and self-regulation theory.
CHAPTER 6: DISCUSSION

Music Listening and Coping

A pioneering study conducted by Miranda and Claes (2009) suggested that music listening can be used for several coping strategies. They suggested that listening to music ‘to distract the self from problems when the situation requires an active solution’ was most strongly related to ‘avoidant coping’, listening to music ‘to let the lyrics advise one on a problem’ and ‘to conduct cognitive reappraisal’ was most strongly related to ‘problem solving coping’, and listening to music for ‘emotional reasons’ was most strongly related to ‘emotional coping’. Whereas, music listening can be primarily conceptualized as an emotion-focused coping strategy (Miranda & Claes, 2009; North, Hargreaves & O’Neill, 2000).

It seems that not many studies so far have provided information on people’s motivations to listen to sad music in order to self-regulate or cope with everyday life problems. Results of the current thesis provide some new insights on this. For example, based on the findings that the most important function of listening to self-identified sad music when feeling sad is ‘(re)experiencing affect’ (Chapter 4) one may argue that the main coping value of listening to sad music when feeling sad can best be explained as ‘emotional coping’. Moreover, the results of the empirical study that investigated the amount to which people wanted to listen to music they identified to sounds happy or sad when they experienced certain emotions (Chapter 5) brought new insights on people’s motivations to listen to music or not to listen to music. Based on the analysis of the data of this study it can be concluded that both listening to self-identified happy and to sad sounding music relates stronger to emotional coping than to any other coping-strategy, whereas deciding not to listen to music relates stronger to problem-solving coping strategy.
CHAPTER 6: DISCUSSION

In sum the result of the current thesis provide new insights in relation to music listening and coping. Of all coping strategy, happy and sad music listening is most strongly motivated by emotion focused coping.

**What Differentiates Listening to Sad Sounding Music From Other Music Listening?**

In order to understand how music can be used for self-regulation several studies have been conducted to investigate the social and psychological ‘functions’ of music (DeNora, 1999; Lonsdale & North, 2011; North & Hargreaves, 2004; Saarikallio & Erkkilä, 2007; Van Goethem, 2010). One recent study that included a psychological investigation of the functions of music listening was conducted by Lonsdale and North (2011). They stated that the functions for listening to music were typically related to; *negative mood management, personal identity, surveillance, positive mood management, interpersonal relationships, and diversion* (for descriptions see chapter 2 or Lonsdale & North, 2011). These researchers then calculated which of the functions were most important for deciding to listen to music and concluded that the functions of music listening are primarily emotional, and that social functions of music listening are of secondary importance. In line with these findings it has often been concluded that either mood-enhancement (Ter Bogt, et al., 2010; Thayer, Newman, & McClain, 1994) or affective functions (Van Goethem, 2010; Van Goethem, Sloboda, 2011) are the most important reasons for listening to music.

The current thesis contributed to the findings outlined above by focusing on investigating the functions of ‘sad’ music for people who are sad. Both of the empirical study that focused on understanding sad music listening (Chapter 3; Chapter 4; Van den Tol & Edwards, 2011) showed that listening to music that is self-identified to sound sad
can provided people who are feeling sad with a series of functions, these being; (re-)experiencing affect; cognitive; social; retrieving memories; friend; distraction; and mood-enhancement. Relatively similar to finding on music listening in general it was found that when comparing average ratings on the importance of all the functions of sad music listening then (re-)experiencing affect was the most important function (Chapter 3; Chapter 4; Van den Tol & Edwards, 2011). However, the findings did not support the proposition that mood-enhancement was among the most important functions for listening to music that is self-identified to sound sad when feeling sad (Ter Bogt, Mulder, Raaijmakers, & Nic Gabhainn, 2010; Thayer, Newman, & McClain, 1994). Indicating that sad music listening when feeling sad is motivated by a different set of processes than most of the listening of music that portrays different affect.

The reason that (re-)experiencing affect was the most important function of sad music may be that music has the tendency to mainly induce listeners with the emotions that they perceive are being portrayed (Juslin & Lauka, 2004; Juslin & Västfjäll 2008), and that therefore happy music may be used more effectively for feeling happy compared to music that sounds sad. Hence, when people decide to listen to sad music when feeling sad in order to achieve affect regulation, the first aim of listening to sad music may be for inducing or strengthening feelings of sadness rather than to induce happiness. Participants of the explorative study believed that taking time to be in touch with feelings of sadness often serves an important role in processes of loss and grief. It appears that listening to that is self-identified to sound sad is a good tool for coping with such situations (Chapter 3; Van den Tol & Edwards, 2011).

Retrieving memories also seemed to play a much more important role for listening to sad music when people are feeling sad than it plays in music listening in
CHAPTER 6: DISCUSSION

general (Chapter 4). To explain these findings it is important to take into account that many of the situations in which people listened to self-identified sad music are situations in which people missed someone or in which they had to deal with loss (Chapter 3; Van den Tol & Edwards, 2011). In these situations reminiscence was sometimes used to feel less lonely or to deal with the emotions and thoughts related to ones loneliness or loss.

In sum, the finding that resulted from the empirical studies that were conducted for this thesis, provide important new information on the role that music listening plays for people who are experiencing negative life circumstances and who are sad. It is expected that these findings will spark new research and inform theory and practice.

Happy and Sad Music Listening for Different Purposes

In line with mood congruency theory evidence was provided that when people were in a negatively valence mood then they choose to listen to self-identified sad music rather than to happy music and when they were in a positively valence mood they preferred happy music (Chapter 5). However, music listening tendencies in different emotional states could also be explained ‘beyond’ mood congruency theory. It was found that appraisals of certainty did relate differently to happy music listening preference (Chapter 5). More precisely, participants were listening to more self-identified happy music for emotions that were associated with high certainty. This preference was explained by that happy music is more suitable to facilitate the correct atmosphere for top-down processing (Bodenhausen, Sheppard & Kramer, 1994; Martin et al, 1993; Tiendes & Linton, 2001).

These findings have a high potential to contribute to the forming of new useful application of music listening in mental health care and for society. It is additionally
expected that these novel findings will contribute to theory and application on the
cognitive implications of music listening.

Understanding Misregulation with Sad Music

In the current thesis there has been focused on investigating the reasons why
people listen to sad music when feeling sad. Results of the explorative study that was
conducted in order to understand sad music listening when feeling sad (Chapter 3; Van
den Tol & Edwards, 2011) showed that even though people expect to feel better as a
result of listening to sad music, in some occasions people felt worse. Thus, self-selected
sad music may not always have the desired effects. When self-regulatory strategies do
not have the expected and desired outcome one can speak of misregulation (Baumeister
et al., 1994; Baumeister & Heatherton, 1996; Carver & Scheier, 1981). The main aim of
the current thesis was not to investigate why misregulation happens but it is nevertheless
worthwhile to discuss this topic in relation to findings of this research (Van den Tol &

In a review, Baumeister and Heatherton, (1996) concluded that misregulation
occurs when having false assumptions or due to misdirected effort (Baumeister et al.,
1994). They argued that there are three main causes of misregulation. First of all
misregulation can be caused by misunderstood contingencies, which entails having false
believes about the self, the world and about which behaviour yields to desirable
outcomes. Misregulation can also be caused by quixotic efforts to control the
uncontrollable, which means having misconception about what part of an outcome of a
desired goals one can control or not. Misregulation can also be caused by giving too much
priority to affect regulation which means neglecting more fundamental practical effects
by giving priority to affect regulation.
CHAPTER 6: DISCUSSION

Findings of the explorative study on sad music that was conducted for this thesis show that when misregulation occurs this is primarily because of having misunderstood contingencies about the working of sad music (see model provided in chapter 3; Van den Tol & Edwards, 2011). Based on the responses of the participants of the explorative study it seems that some misregulation may also occur because of ‘giving too much priority to affect-regulation’. For example, one participant (p98 Chapter 3) reported that he felt the need to wallow in his sorrow. This however made him feel worse:

[I] felt the need to wallow. If I couldn’t hold onto feelings of hurt and loss what feelings associated with her could I hold onto? [The music listening] made me feel even shittier for about two weeks then I realized I was being an idiotic stereotype and just moped around a bit after that. (22, male)

It can be argued that this is very likely a form of giving ‘too much priority to affect regulation’. Based on findings of the empirical study that investigated people’s motivations to listening to happy and sad music among different emotional states (Chapter 5), it has been shown that problem solving coping relates stronger to ‘no music listening’ whereas emotions focused coping relates stronger to music listening. Although music can also be used as a form of problem-solving coping (Miranda & Cleas, 2009) it is very likely that even though in some occasion problem-solving coping may be the better option, people may sometimes listen to sad music to wallow in their sorrow when working on actively solving their problems would have been a better coping strategy. More specifically, research shows that problem-solving-coping is more effective than emotions focused coping when there is actually an opportunity to solve a problem (Carver & Scheir, 1999; Folkman & Lazarus, 1980). As such, this situation (and similar
situations) of misregulation can probably be categorized as giving ‘too much priority to affect regulation’.

In sum the findings of the current thesis provide some important first insights in the applicability and limitations of usefulness of music listening. Moreover, these findings point out some promising interesting topics for further investigation.

Music Listening Behaviour and Emotions Perceived and Emotions Felt

The results of the current thesis provides new light on the discussion about differences and similarities between the emotions perceived to be portrayed in music and emotions experienced as a result of music listening (Kallinen & Ravaja, 2006; Zetner, Grandjean, & Scherer, 2008). It is suggested that sad emotions that are experienced as a result of sad music listening are on average seen as slightly more pleasant than sad emotions that are perceived to be portrayed by sad music (Chapter 4). The results of this thesis also suggest that sad emotions that are experienced as a result of music listening are seen as slightly more pleasant than sad emotion in everyday life (Chapter 4). Some quotes of people selected for the explorative study on sad music listening (Chapter 3) indicate that people who listen to sad music when they are feeling sad may experience a shift in how pleasant their sad affective state is, towards experiencing their sadness as more positive. It was also found that those people who selected music with a high aesthetic value selection strategy found listening to sad music more pleasant and experienced more mood-enhancement than people who did not select music with this strategy (Chapter 4). Sad emotions in everyday life are generally not perceived to be pleasant (Smith and Elsworth, 1985). In line with previous findings (Bigand, et al., 2005) these results suggest that the emotions ‘experienced’ as a result of music listening are more pleasant than the emotions ‘perceived’ to be portrayed by the music.
The findings outlined above have implications on theory as well as practical implications. First of all, these findings provide some insights in what sort of music selection strategy could be used by people in order to experience a pleasant emotional state while listening. That is, of all music selection strategies that were identified in the current research selecting sad music with a ‘high aesthetic value strategy’ is most likely to provide people with a pleasant emotional state (Chapter 4). These findings potentially also provide important information that social health care workers can share when they help people to cope with adverse situations.

The above outlined findings also have important theoretical implication on the use of the word valence. The circumplex is a two dimensional model with ‘valence’ and ‘arousal’ on its axes (Russell, 1980). Valence can be describes as the ‘intrinsic attractiveness’ or ‘pleasantness’ of a stimuli (Frijda, 1986). Being in a state of high arousal reflects being in an alert and awake mental state, restlessness, excitation, and agitation (Barrett & Russell, 1998; Russell, 1980). The word valence is often used in relation to the interpreting and categorizing of stimuli that portray affect, such as, facial expressions (Abelson & Sermat, 1962; Osgood, 1966), affective words (Russell, 1978, 1980), voice perception (Green & Cliff, 1975), and music (Bigand, et al., 2005). The word valence can additionally also be used for interpreting and categorizing affective changes resulting from listening to music (Husain, Thompson, & Schellenberg, 2002).

Based on the current findings one may sometimes have to be more careful when using the word valence in relation to the emotions that one experiences while listening to sad music. More specific, one may argue that in those occasions when the sad emotions ‘arising from sad music listening’ are experience to be ‘pleasant’ one might be able to speak of ‘positively valence sad music’ as the sad music ‘listening experience’ is
pleasant. In the same occasions one might however also speak of ‘negatively valence sad music’ because ‘the sad music itself portrays’ an emotion that is generally perceived to be ‘unpleasant’ in everyday life. In sum the results of the research conducted for this thesis give a new perspective on the use of the word valence in relation to sad music listening.

**Limitations and Implications on Future Research**

The knowledge provided in the current thesis provides a starting point for conducting several important and interesting follow-up studies in the more detailed investigation of the self-regulatory value of self-identified sad music as well as exploring the perceived value of listening to self-selected happy music. Based on the current findings there are many opportunities for useful and interesting follow-up research in the relation to this topic. An outline of some examples of interesting future directions will be provided below.

**Extending Research to Individual Factors**

In the analyses of all studies conducted for the current thesis there has not been extensively focused on the impact that individual factors might have on music listening behaviour. Future research may focus on this in order to provided more information that can be useful for treatment and for diagnose of patients in mental healthcare. Follow-up research may investigate how different symptoms of psychopathology relate to the different ways for which sad and happy music are listened to. Research may focus on healthy coping mechanisms and misregulatory use of sad music such as in relation to personality factors and symptoms of psychopathology. Future research could also focus on investigating individual difference in the use of happy and sad music listening and how these relate to long term psychological and physiological health gains.
CHAPTER 6: DISCUSSION

**Extending Research to Other Sorts of Music**

The present thesis has focused on investigating sad and happy music listening. To increase the knowledge that has been gained in the study on happy and sad music and on mood congruency and appraisal effects (Chapter 5) future research may additionally focus on conducting research on music that portrays other emotions or on a larger group of everyday life emotions. For example, extending research to a larger group of every life emotions will provide more insights in the role that appraisals play in music listening behaviour as such research will provide the possibility to explore interaction effects between appraisal tendencies. Moreover, extending research to music that portrays other emotions will provide additional information on the role that the emotions portrayed in music play in the specific functions that music serves.

**Verification of Current Findings**

In all the three empirical studies conducted for the current thesis data has been gathered based on people’s retrospective recollection experiences. Emotional content of memories as well as details of the situation can change over time (Schacter, 1999; Schmolck, Buffalo & Squire, 2000). Although the effect of biased emotional perception may only be minor (Schacter, 1999; Schmolck, Buffalo & Squire, 2000) small biases may exist in how people recall emotional experience during and after an event. Therefore, future research that is aimed at extending and verification of the current findings should consider the use of methods in which people are asked to provide data about their experience while they are actually listening to the music or very shortly after listening. These studies may either be conducted in a laboratory setting or by using Experience Sampling Methods such as in the study by Van Goethem and Sloboda (2010) in which
participants completed a questionnaire every time they were engaging in the behaviour that these researchers were interested in.

Moreover, the current research focussed on self-identified and self-selected sad music. Other research may therefore also focus on investigating the extend to which music listening behaviour for self-identified and self selected sad music differ from sad music with prototypical features of sad music (Gabrielsson & Lindström, 2001; Juslin & Laukka, 2004; Khalfa, et al., 2008).

Overall, it can be concluded that the current research provided important insights that have practical as well as theoretical implications on understanding music listening behaviour. To summarise, new insights have been provided in relation to the; valence of music, what sort of emotions sad music can provide, what the functions of sad music listening are, how music listening relates to everyday coping, and on people motivations to either listen to happy, sad music or no music. It is hoped that the theories resulting from the research conducted for this thesis will contribute to the knowledge of people working in social healthcare and to people in society, it is additionally hoped that this research will generate new debate and catalyse new theory testing.
CHAPTER 6: DISCUSSION

References Chapter 6


CHAPTER 6: DISCUSSION


CHAPTER 6: DISCUSSION


CHAPTER 6: DISCUSSION


CHAPTER 6: DISCUSSION


Van den Tol, A. J. M. & Edwards, J. (Chapter 5). Listening to happy and sad music: On the roles of emotions and appraisal in the decision to engage in music listening.


