# Tuomas **Eerola**

#### **PROFESSOR**

Durham University, UK

### Education

University pedagogical studies

University of Jyväskylä, Finland

2011

PhD in musicology

University of Jyväskylä, Finland

2003

Postgraduate studies in Music Psychology

University of Leicester, UK

1998

Master of Arts
University of Jyväskylä, Finland

1997

Bachelor of Arts
University of Jyväskylä, Finland

1995

# Professional Appointments \_\_\_\_\_

Professor of Music Cognition Durham, UK

Durham University 2013-

**Professor**Jyväskylä, Finland

University of Jyväskylä 2010 - 2013

Senior Researcher Jyväskylä, Finland

University of Jyväskylä 2008-2009

**Professor**Jyväskylä, Finland

University of Jyväskylä, Music, Mind & Technology MA Programme

Associate Professor

Jwäskylä, Finland

University of Jyväskylä 2002-2006

### Service \_\_\_\_

**Head of Department** 

**Deputy Head of Department**Department of Music, Durham University, UK

2024

2007

**Director of Postgraduate Studies**Department of Music, Durham University, UK

2024-2025

**Director of Research**Department of Music, Durham University, UK

2021-2024

Head of Department of Music, Durham University, UK

2017-2019

**Director of Research**Department of Music, Durham University, UK

2013-2015

Department of Music, University of Jyväskylä,

Finland

# Scientific Citizenship \_\_\_\_\_

Member

**ESRC Peer Review College** 

UK 2024-

**Advisory Group Member of AHRC project Embodied Timing** 

in DJ Practice University of Birmingham, UK

2022-2025

Advisory Group Member of ESRC project POLYHYMNIA -**Music Selections for the treatment of Depression** 

University of Liverpool, UK

2019-2022

Member of Future Leaders Fellowships (FLF) Peer Review

College Durham University, UK

2021-

**New World Programme Steering Group** Durham University, UK

2017-2018

Institute of Advanced Research Computing, **Member of Steering Group** 

Durham University, UK

2014-2015

**Advisory Group Member of AHRC project An Integrated** 

**Audio-Symbolic Model for Music Similarity** City, University of London, UK

2014-2015

**Consulting Editor** Music Perception

2019-

**Consulting Editor** PsychoMusicology

2016-2018

**Editorial Board Member** Psychology of Music

2012-

Digital musicology in Frontiers in Digital **Editorial Board Member** 

**Humanities** 

2012-2018

**Consulting Editor** Musicae Scientiae

201.3-

**Board Member** Finnish Graduate School for Music Research

2011-2013

**Panel Member** National Publication Forum (Finland)

2010-2011

**Committee Member** ESCOM Conference Organizing Committee

**Vice-Director** Centre of Excellence in Music Research

Executive Committee of the Centre of Excellence in

Music Research

2008-2013

2

President Finnish Musicological Society Advisory Group Member

Advisory Group Member

2006-2008

Board Member Jyväskylä Studies in Humanities

2004-2013

Board Member Finnish Musicological Society

2002-2007

Editorial Board Member Musiikki (Journal)

2002-2007

Member Eino Roiha Institute

2002-2007

**Steering Group Member**University of Jyväskylä NACS programme

2001-2003

**Board Member**Board of the Finnish Society for Ethnomusicology

1998-1999

EU FET Grant. EU

ARC Grant, Australia

Academy of Finland Project

### Grants

**ENtrainment and synchronization at multiple TIME scales** in the MENTal foundations of expressive gesture

CO-PI, £189,119

Institute of Advanced Studies

Durham University, UK

PI, £2,000

Social cohesion and community resilience through intercultural music engagement

Co-PI 2019-2022

The breath of music – Investigating respiration in Indian

music performanceSmall Grant, British Academy, UKCo-PI, £7,7062016

Interpersonal entrainment in music performance

Arts and Humanities Research Council (AHRC)

Co-PI, £512,410 2017-2019

Sweet Sorrow - Testing the empathy-related mechanisms involved in the enjoyment of music-induced sadness

PI, 575,873 EUR 2013-2017

**Travel Grant**PI, £1,000

Matariki Network of Universities

 Tagging online music contents for emotion
 Economic and Social Research Council (ESRC)

PI, £113,201 2013-2014

**Visit and Collaboration**Mobility Grant, University of York

Co-PI, £3,400 2010-2011

Digitisation of Finnish Folks Songs [Suomalaisia kansansävelmiä käsittelevän verkkomateriaalin laatiminen] (with P. Toiviainen)

Co-PI, £4,000

Development of Finnish Folk Song Web Interface (with P.

**Toiviainen)**Virtual University of Finland

Co-PI, £1,000

£5,000 Development of Finnish Folk Song Database (with P.

Toiviainen) Marie Curie, EU

Co-PI 2000

Marie Curie Mobility Grant

Marie Curie, EU

PI, 13,800 EUR 1998-1999

Organising National Music Research Symposium (with P.

**Toiviainen)**Academy of Finland

Co-PI, £1,000

Marie Curie, EU

1998

Awards

Innovation Award

University of Jyväskylä, Finland

With Prof. Petri Toiviainen

Award for Popularizing Science

University of Jyväskylä, Finland

2011

4

Faculty Member of the Year

University of Jyväskylä, Finland

Granted by Student Union 2005

Outstanding Doctoral Dissertation

University of Jyväskylä, Finland

Faculty of Humanities Award 2004

1st prize in Novel Ideas for Children's Musical Activities

Helsinki, Finland

Shared with P. Pajala, K. Hämäläinen

PhD Supervision \_\_\_\_\_

James Armitage Durham University, UK

1st supervisor 2024

Thomas Graves

Durham University, UK

2nd supervisor 2024

Lennie Thomas

Durham University, UK

1st supervisor 2023

Annaliese Micallef Grimaud

Durham University, UK

1st supervisor 2022

Laura Erel Durham University, UK

2nd supervisor 2022

Scott Bannister

Durham University, UK

1st supervisor 2019

Imre Lahdelma
University of Jyväskylä, Finland

1st supervisor 2017

Henna Peltola

University of Jyväskylä, Finland

1st supervisor 2016

Pasi Saari University of Jyväskylä, Finland

July 28, 2025 Tuomas Eerola · CV

1st supervisor 2014

Rafael Ferrer University of Jyväskylä, Finland

2013

Pirkko Martti University of Jyväskylä, Finland

1st supervisor 2013

Jonna Vuoskoski University of Jyväskylä, Finland

1st supervisor 2012

Marko Punkanen University of Jyväskylä, Finland

2nd supervisor 2011

Kai Tuuri University of Jyväskylä, Finland

2nd supervisor 2011

PhD Examinations \_\_\_\_\_

1st supervisor

Harin Lee (PhD)

Leipzig University, Germany

Wei Li Tang (PhD)

Sheffield University, UK

2025

Vjosa Preniqi (PhD)

Queen Mary, UK

2025

Johanna Wilson (PhD)

University of Jyväskylä, Finland

2024

Noah Henry (PhD)

York University, UK

2024

Sanga Chaki (PhD)

Indian Institute of Technology, Kharagpur

Juan Mendoza (PhD)

University of Jyväskylä, Finland

2023

Iza Korsmit (PhD)

McGill University, Canada

2023

Xiaoxuan Wang (MPhil) Cambridge University, UK

2023

Shuxin Meng (PhD Registration) EPFL, Switzerland

2022

Huw Cheston (PhD Registration)

Cambridge University, UK

2022

Alessandro Ansani (PhD)

Sapienza, University of Rome, Italy

2022

Anders Herting (MSc)

University of Oslo, Norway

2021

**Eline Smit (PhD)**University of Western Sydney, Australia

2020

Doug Bachorik (PhD)

Durham University, UK

2020

**Peter Harrison (PhD)** Queen Mary, UK 2020 Aimee Battcock (PhD) McMaster University, Canada Tejaswinee Kelkar (PhD) University of Oslo, Norway 2019 **Shelly Knotts (PhD)** Durham University, UK 2018 Noah Latchem (MSc) Edinburgh University, Scotland Tim Metcalfe (PhD) Sheffield University, UK 2017 James Weaver (PhD) University of Reading, UK Julian Cespedes Guevara (PhD) University of Sheffield, UK 2016 Lara Pearson (PhD) Durham University, UK 2016 Hans Chr. Nielsen (PhD) Aarhus University, Denmark Yuko Arthurs (PhD) Sheffield University, UK 2015 Daniel Wolff (PhD) City University, London, UK 2014 Ulla Pohjannoro (PhD) Sibelius-Academy, Finland 2013 Lily Law (PhD) York University, UK 2012 Diana Omigie (PhD) Goldsmiths, University of London, UK Jukka Holm (PhD) Tampere University of Technology, Finland 2012 Elisa Järvi (PhD) Sibelius Academy, Finland Patrick G. Hunter (PhD) University of Toronto at Mississauga, Canada 2010 **Steven Livingstone (PhD)** University of Queensland, Australia 2008 Margaret Cahill (PhD) University of Limerick, Ireland Kari Suoniemi (PhD) University of Tampere, Finland 2008 **Funding Reviews** \_

EU Grant applications	2024
Leaders Fellowships (FLF)	2024
European Science Foundation	2023
Austrian Science Fund (FWF)	2023
Swiss National Science Foundation	2023
Future Leaders Fellowships (FLF)	2023
Tenure Reviews, University of Edinburgh	2023
Tenure Reviews, University California San Diego, US	2023
Tenure Reviews, University of Jyvaskyla, Finland	2023
German Research Foundation	2022
Israel Science Foundation (ISF)	2021
Tenure Reviews, University of Edinburgh	2021
Irish Research Council	2018-2020
REF2021 Reviews Guildhall School of Music & Drama	
Irish Research Council	2020
UK Medical Research Council	2019-2020
HUMEVAL, Assessment of Humanities at Norway	
Tenure Reviews, Department of Music, University of Jyväskylä, Finland	2017
Hong Kong Research Council	2017
Tenure Reviews, Sibelius-Academy, Finland	2017
Funding Reviews EU (COST)	2015
Leverhulme Trust	2015

Tenure Reviews,	<b>Goldsmiths Universi</b>	ty of London, UK
-----------------	----------------------------	------------------

2014

**Engineering and Social Research Council (UK)** 

2013-

**Funding Reviews Research Council of Canada** 

2013

	-
Taaching	Fynarianca
reaciiiig	<b>Experience</b>

**Research Methods and Resources (MA)** 

Department of Music, Durham University

2024-2025

Advanced topics in Music Psychology (MA)

Department of Music, Durham University

2024-2025

Music and Science (BA)

Department of Music, Durham University

2014-2021

**Advanced Topics in Music and Science (MA)** 

Department of Music, Durham University

2020-2023

**Research Methods and Resources (MA)** 

Department of Music, Durham University

2016-2017

Music, Culture, and Cognition (MA)

Department of Music, Durham University

2015

**Dissertation (BA)** 

Department of Music, Durham University

Psychology of Music (BA)

Department of Music, Durham University

2013-2018

**Music and Emotions (BA)** 

Department of Music, University of Jyväskylä

2011 Department of Music, University of Jyväskylä

Psychology of Music I (BA)

Psychology of Music II (BA)

2010-2014

Department of Music, University of Jyväskylä

2010-2013

2006-2010

**Music Perception (MA)** 

**Music Psychology (MA)** 

Department of Music, University of Jyväskylä

Department of Music, University of Jyväskylä

Music, Culture, and Cognition (MA)

Department of Music, University of Jyväskylä 2008-2011

Tilastolliset menetelmät Department of Music, University of Jyväskylä

2005-2007

Viestintäseminaari Department of Music, University of Jyväskylä

2005-2006

Department of Music, University of Jyväskylä

2003-2013

JULY 28, 2025

Johdatus musiikintutkimukseen

#### Praktikumseminaari

Department of Music, University of Jyväskylä 2002-2005

**Tutkielmaseminaari** 

Department of Music, University of Jyväskylä

**Empiirinen tutkimus** 

Department of Music, University of Jyväskylä

### **Publications**

#### Summary

- All: 244
- Refereed Journal Papers: 127
- Books (Authored or Edited): 8
- · Chapters in Books: 28
- Proceedings in Refereed Conference Proceedings: 47
- Other Scholarly Writing (Book Reviews etc.): 3
- Datasets and Electronic Materials (Software etc.): 31

#### **Citations**

- Google Scholar Total Citations: 14478
- Google Scholar H-index: 59

### **Peer-reviewed Journal Papers**

- Armitage, J., & Eerola, T. (2025). Auditory affective priming: the role of trait anxiety and stimulus type. Psychology of Music. https://doi.org/10.1177/03057356241300603
- Ayyildiz, C., Geibel, O., Herff, S. Hashim, S., Eerola, T., & Küssner, M. (2025). Music as social surrogate? A qualitative analysis of older adults' choices of music to alleviate loneliness. Musicae Scientiae. https://doi. org/https://doi.org/10.1177/10298649251319403
- Eerola, T., & Saari, P. (2025). What emotions does music express? Structure of affect terms in music using iterative crowdsourcing paradigm. *Plos ONE*, 20(1), e313502. https://doi.org/https://doi.org/10.1371/journal.
- Eerola, T., & Schutz, M. (2025). Major-minorness in Tonal music Evaluation of Relative Mode Estimation using Expert Ratings and Audio-Based Key-finding Principles. Psychology of Music. https://doi.org/10.1177/ 03057356251326065
- Eerola, T., Kirts, C., & Saarikallio, S. H. (2025). Episode model: The functional approach to emotional experiences of music. Psychology of Music, 53(4), 590-615. https://doi.org/10.1177/03057356241279763
- García-Fernández, M., Fuentes-Sánchez, N., Escrig, M. A., Eerola, T., & Pastor, M. C. (2025). Gender, emotion regulation, and cognitive flexibility as predictors of depression, anxiety, and affect in healthy adults. Current Psychology, 44, 5685-5694. https://doi.org/https://doi.org/10.1007/s12144-024-07240-6
- Jakubowski, K., Ahmad, N., Armitage, J., Barrett, L., Edwards, A., Galbo, E., Gómez-Cañón, J., Graves, T., Jadzgevĭciūtė, A., Kirts, C., Lahdelma, I., Lennie, T., Ramatally, A., Schlichting, J., Steliou, C., Vishwanath, K., & Eerola, T. (2025). Participant and Musical Diversity in Music Psychology Research. Music & Science. https:// doi.org/https://doi.org/10.1177/20592043251317180
- Tzanaki, P., Eerola, T., & Timmers, R. (2025). Actions and feelings in sync: exploring the relationship between synchrony and empathy in children's dyadic musical interactions. Frontiers in Psychology, 16. https://doi. org/10.3389/fpsyg.2025.1467767
- Armitage, J., Eerola, T., & Halpern, A. (2024). Play it again, but more sadly: Influence of timbre, mode, and musical experience in melody processing. Memory & Cognition. https://doi.org/https://doi.org/10.3758/s 13421-024-01614-8

- Eerola, T., & Clayton, M. (2024). onsetsync: An R Package for Onset Synchrony Analysis. *Journal of Open Source Software*, *9*(93), 5395. https://doi.org/10.21105/joss.05395
- Fuentes-Sánchez, M., N. García-Fernández, Escrig, M. A., Eerola, T., & Pastor, M. C. (2024). The role of gender in emotional reactions elicited by music: Autonomic reactivity, facial expression, and self-reports. *Psychology of Music*.
- Hardwicke, T. E., Thibault, R. T., Clarke, B., Moodie, N., Cruwell, S., Schiavone, S. R., Handcock, S. A., Ngiem, K. A., Mody, F., Eerola, T., & Vazire, S. (2024). Prevalence of transparent research practices in psychology: A cross-sectional study of empirical articles published in 2022. *Advances in Methods and Practices in Psychological Science*.
- Lahdelma, I., & Eerola, T. (2024). Valenced Priming with Acquired Affective Concepts in Music: Automatic Reactions to Common Tonal Chords. *Music Perception*, *41*(3), 161–175. https://doi.org/https://doi.org/10. 1525/mp.2024.41.3.161
- Schiller, D., Yu, A. N., Alia-Klein, N., Becker, S., Cromwell, H. C., Dolcos, F., Eslinger, P. J., Frewen, P., Kemp, A. H., Pace-Schott, E. F., Raber, J., Silton, R. L., Stefanova, E., Williams, J. H., Abe, N., Aghajani, M., Albrecht, F., Alexander, R., Anders, S., ... Lowe, L. (2024). The Human Affectome. *Neuroscience & Biobehavioral Reviews*, 158, 105450. https://doi.org/https://doi.org/10.1016/j.neubiorev.2023.105450
- Armitage, J., Lahdelma, I., Eerola, T., & Ambrazevĭcius, R. (2023). Culture influences conscious appraisal of, but not automatic aversion to, acoustically rough musical intervals. *Plos One*, *18*(12), e294645. https://doi.org/10.1371/journal.pone.0294645
- Eerola, T., Clayton, M., & Emms, P. (2023). *movementsync: Analysis and Visualisation of Musical Audio and Video Movement Synchrony Data*. https://doi.org/https://cloud.r-project.org/package=movementsync
- Lahdelma, I., & Eerola, T. (2023). Data-driven theory formulation or theory-driven data interpretation? Comment on `Consonance and dissonance perception. A critical review of the historical sources, multidisciplinary findings, and main hypotheses' by Di Stefano et al. *Physics of Life Reviews*, *45*, 56–59. https://doi.org/https://doi.org/10.1016/j.plrev.2023.04.005
- Armitage, J., & Eerola, T. (2022). Cross-modal Transfer of Valence or Arousal from Music to Word Targets in Affective Priming?. *Auditory Perception & Cognition*. https://doi.org/https://doi.org/10.1080/25742442.2022. 2087451
- Fuentes-Sánchez, N., Pastor, R., Eerola, T., Escrig, M. Ángel, & Pastor, M. C. (2022). Musical Preference but not Familiarity Influences Subjective Ratings and Psychophysiological Correlates of Music-Induced Emotions. *Personality and Individual Differences*, *198*(111828). https://doi.org/https://doi.org/10.1016/j.paid.2022. 111828
- Grimaud, A. M., & Eerola, T. (2022). An Interactive Approach to Emotional Expression through Musical Cues. *Music & Science*, *5*, 1–23. https://doi.org/https://doi.org/10.1177/20592043211061745
- Herdson, O., Eerola, T., & Javadi, A. H. (2022). Analysis and Classification of Music-induced States of Sadness. *Emotion*. https://doi.org/https://doi.org/10.1177/1754073922114047
- Lahdelma, I., Eerola, T., & Armitage, J. (2022). Is Harmonicity a Misnomer for Cultural Familiarity in Consonance Preferences?. *Frontiers in Psychology*. https://doi.org/https://doi.org/10.3389/fpsyg.2022.802385
- Lennie, T. M., & Eerola, T. (2022). The CODA model: a review and skeptical extension of the constructionist model of emotional episodes induced by music. *Frontiers in Psychology: Auditory Cognitive Neuroscience*. https://doi.org/https://doi.org/10.3389/fpsyg.2022.822264
- Reybrouck, M., & Eerola, T. (2022). Musical enjoyment and reward: from hedonic pleasure to eudaimonic listening. *Behavioural Sciences*, *12*(5), 154. https://doi.org/https://doi.org/10.3390/bs12050154
- Street, S. E., Eerola, T., & Kendal, J. (2022). The role of population size in folk tune complexity. *Humanities and Social Sciences Communications*, 9(152). https://doi.org/https://doi.org/10.1057/s41599-022-01139-y
- Armitage, J., Lahdelma, I., & Eerola, T. (2021). Automatic responses to musical intervals: Contrasts in acoustic roughness predict affective priming in Western listeners. *Journal of Acoustical Society of America*, *150*(551). https://doi.org/10.1121/10.0005623

- Athanasopoulos, G., Eerola, T., Lahdelma, I., & Kaliakatsos-Papakostas, M. (2021). Harmonic organisation conveys both universal and culture-specific cues for emotional expression in music. *Plos One*, *16*(1), e244964. https://doi.org/%2010.1371/journal.pone.0244964
- Bannister, S., & Eerola, T. (2021). Vigilance and Social Chills with Music: Evidence for Distinct Types of Musical Chills. *Psychology of Aesthetics, Creativity, And the Arts*. https://doi.org/http://dx.doi.org/10.1037/aca 0000421
- Clayton, M., Tarsitani, S., Jankowsky, R., Jure, L., Leante, L., Polak, R., Poole, A., Rocamora, M., Alborno, P., Camurri, A., Eerola, T., Jacoby, N., & Jakubowski, K. (2021). The Interpersonal Entrainment in Music Performance Data Collection. *Empirical Musicology Review*, *16*(1), 65–84. https://doi.org/http://dx.doi.org/10.18061/emr.v16i1.7555
- Eerola, T., & Lahdelma, I. (2021). Register Impacts Perceptual Consonance through Roughness and Sharpness. *Psychonomic Bulletin and Review*. https://doi.org/10.3758/s13423-021-02033-5
- Eerola, T., & Lahdelma, I. (2021). The Anatomy of Consonance/Dissonance: Evaluating Acoustic and Cultural Predictors Across Multiple Datasets with Chords. *Music & Science*, *4*. https://doi.org/https://doi.org/10.1177/20592043211030471
- Eerola, T., Armitage, J., Lavan, N., & Knight, S. (2021). Online Data Collection in Auditory Perception and Cognition Research: Recruitment, Testing, Data Quality and Ethical Considerations. *Auditory Perception & Cognition*, 4(3–4), 251–280. https://doi.org/https://doi.org/10.1080/25742442.2021.2007718
- Eerola, T., Vuoskoski, J. K., Kautiainen, H., Peltola, H.-R., Putkinen, V., & Schäfer, K. (2021). Being moved by listening to unfamiliar sad music induces reward-related hormonal changes in empathic listeners. *Annals of the New York Academy of Sciences*, *1502*, 121–131. https://doi.org/DOI:10.1111/nyas.14660
- Fuentes-Sánchez, N., Pastor, M. C., , Eerola, T., & Pastor, R. (2021). Individual differences in music reward sensitivity influence the perception of emotions represented by music. *Musicae Scientiae*. https://doi.org/https://doi.org/10.1177/10298649211060028
- Gómez-Cañón, J. S., Cano, E., Eerola, T., Herrera, P., Hu, X., Yang, Y.-H., & Gómez, E. (2021). Music Emotion Recognition: Toward new, robust standards in personalized and context-sensitive applications. *IEEE Signal Processing Magazine*, 38(6), 106–114. https://doi.org/10.1109/MSP.2021.3106232
- Jakubowski, K., & Eerola, T. (2021). Music evokes fewer but more positive autobiographical memories than emotionally matched sound and word cues. *Journal of Applied Research in Memory and Cognition*. https://doi.org/https://doi.org/10.1016/j.jarmac.2021.09.002
- Jakubowski, K., Belfi, A., & Eerola, T. (2021). Phenomenological and age-related differences in music- and television-evoked autobiographical memories. *Music Perception*, *38*(5), 435–455. https://doi.org/10.1525/mp.2021.38.5.435
- Lahdelma, I., Athanasopoulos, G., & Eerola, T. (2021). Sweetness is in the ear of the beholder: chord preference across United Kingdom and Pakistani listeners. *Annals of the New York Academy of Sciences*. https://doi.org/https://doi.org/10.1111/nyas.14655
- Micallef Grimaud, A., & Eerola, T. (2021). EmoteControl: An interactive system for real-time control of emotional expression in music. *Personal and Ubiquitous Computing*, 25(4), 677–689. https://doi.org/10.1007/s00779-020-01390-7
- Armitage, J., & Eerola, T. (2020). Reaction Time Data in Music Cognition: A Comparison of Pilot Data Sets from Lab, Crowdsourced and Convenience Web Samples. *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg. 2019.02883
- Clayton, M., Jakubowski, K., Eerola, T., Keller, P., Camurri, A., Volpe, G., & Alborno, P. (2020). Interpersonal entrainment in music performance: Theory, method and model. *Music Perception*, *38*(2), 136–194. https://doi.org/10.1525/mp.2020.38.2.136
- Fuentes-Sánchez, N., Pastor, R., Eerola, T., & Pastor, M. C. (2020). Spanish adaptation of a film music stimulus set (FMSS): Cultural and gender differences in the perception of emotions prompted by music excerpts. *Psychology of Music*, 49(5), 1242–1260. https://doi.org/10.1177/0305735620958464

- Jakubowski, K., Eerola, A., T. Blackwood Ximenes, Ma, K. W., Clayton, M., & Keller, P. (2020). Multimodal perception of interpersonal synchrony: Evidence from global and continuous ratings of improvised musical duo performances. *Psychomusicology: Music, Mind, And Brain*, 30(4), 159–177. https://doi.org/10.1037/pmu 0000264
- Jakubowski, K., Eerola, T., Tillmann, B., Perrin, F., & Heine, L. (2020). A cross-sectional study of reminiscence bumps for music-related memories in adulthood. *Music & Science*, *3*, 1–13. https://doi.org/10.1177/2059204320965058
- Lahdelma, I., & Eerola, T. (2020). A Response to Michael Spitzer's Commentary. *Empirical Musicology Review*. http://dx.doi.org/10.18061/emr.v15i1-2.7324
- Lahdelma, I., & Eerola, T. (2020). Cultural familiarity and musical expertise impact the pleasantness of consonance/dissonance but not its perceived tension. *Scientific Reports*, *10*, 8693. https://doi.org/https://doi.org/10.1038/s41598-020-65615-8
- Lahdelma, I., Armitage, J., & Eerola, T. (2020). Affective Priming With Musical Chords is Influenced by Pitch Numerosity. *Musicae Scientiae*, 26(1), 208–217. https://doi.org/https://doi.org/10.1177/1029864920911127
- Schäfer, K., Saarikallio, S., & Eerola, T. (2020). Music may reduce loneliness and act as social surrogate for a friend: Evidence from an experimental listening study. *Music & Science*, *3*, 1–16. https://doi.org/10.1177/2059204320935709
- Becker, S., Joffily, M., Olino, T., Martin, L., Bräscher, A.-K., Bannister, S., Ellingsen, D.-M., Ferdenzi, C., Calma-Birling, D., Chan, R., Lowe, L. J., Hanson, J. L., Eerola, T., Lidhar, N., Noll-Hussong, M., Musser, E., Pintos Lobo, R., Wang, Y., & Bensafi, M. (2019). The Role of Hedonics in the Human Affectome. *Neuroscience & Biobehavioral Reviews*, *102*, 221–241. https://doi.org/10.1016/j.neubiorev.2019.05.003
- Brown, P., Consortium, & Zhou, Y. (2019). Large expert-curated database for benchmarking document similarity detection in biomedical literature search. *Database*, 1–67. https://dx.doi.org/10.1093%2Fdatabase%2Fbaz 085
- Küssner, M., & Eerola, T. (2019). The Content and Functions of Vivid and Soothing Visual Imagery during Music Listening: Findings from a Survey Study. *Psychomusicology: Music, Mind, And Brain*, 29(2–3), 90–99. https://doi.org/10.1037/pmu0000238
- Küssner, M., Eerola, T., & Fujioka, T. (2019). Music, Emotion, and Visual Imagery: Where Are We now?. *Psychomusicology: Music, Mind, And Brain*, 29(2–3), 59–61. https://doi.org/10.1037/pmu0000245
- Lameira, A., Eerola, T., & Ravignani, A. (2019). Coupled whole-body rhythmic entrainment between two chimpanzees. *Scientific Reports*, 9(18914). https://doi.org/10.1038/s41598-019-55360-y
- Maksimainen, J., Eerola, T., & Saarikallio, S. (2019). Ambivalent Emotional Experiences of Everyday Visual and Musical Objects. *Sage Open*, 9(3), 2158244019876319. https://doi.org/10.1177/2158244019876319
- Bannister, S., & Eerola, T. (2018). Suppressing the Chills: Effects of Musical Manipulation on the Chills Response. *Frontiers in Psychology*, *9*, 2046. https://doi.org/10.3389/fpsyg.2018.02046
- Cespedes-Guevara, J., & Eerola, T. (2018). Music Communicates Affects, Not Basic Emotions A Constructionist Account of Attribution of Emotional Meanings to Music. *Frontiers in Psychology*, 9, 215. https://doi.org/10. 3389/fpsyg.2018.00215
- Clayton, M., Jakubowski, K., & Eerola, T. (2018). Interpersonal entrainment in Indian instrumental music performance: Synchronization and movement coordination relate to tempo, dynamics, metrical and cadential structure. *Musicae Scientiae*, 23(3), 304–331. https://doi.org/10.1177/1029864919844809
- Eerola, T., Jakubowski, K., Moran, N., Keller, P., & Clayton, M. (2018). Shared Periodic Performer Movements Coordinate Interactions in Duo Improvisations. *Royal Society Open Science*, *5*, 171520. https://doi.org/http://dx.doi.org/10.1098/rsos.171520
- Eerola, T., Vuoskoski, J. K., Peltola, H.-R., Putkinen, V., & Schäfer, K. (2018). An integrative review of the enjoyment of sadness associated with music. *Physics of Life Reviews*, *25*, 100–121. https://doi.org/10.1016/j. plrev.2017.11.016

- Eerola, T., Vuoskoski, J. K., Peltola, H.-R., Putkinen, V., & Schäfer, K. (2018). Towards a more explicit account of the transformation: Reply to comments on ``An integrative review of the enjoyment of sadness associated with music''. *Physics of Life Reviews*, *25*, 156–166. https://doi.org/https://doi.org/10.1016/j.plrev.2018.06.013
- Maksimainen, J., Wikgren, J., Eerola, T., & Saarikallio, S. (2018). The Effect of Memory in Inducing Pleasant Emotions with Musical and Pictorial Stimuli. *Scientific Reports*, 8(1), 17638. https://doi.org/10.1038/s41598-018-35899-y
- Reybrouck, M., Eerola, T., & Podlipniak, P. (2018). Editorial: Music and the Functions of the Brain: Arousal, Emotions, and Pleasure. *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg.2018.00113
- Schäfer, K., & Eerola, T. (2018). How listening to music and engagement with other media provide a sense of belonging: an exploratory study of social surrogacy. *Psychology of Music*, 48(2), 232–251. https://doi.org/10. 1177/0305735618795036
- Bonneville-Roussy, A., Eerola, T., & Rust, J. N. (2017). Age trends in musical preferences in adulthood 3: Perceived musical attributes as intrinsic determinants of preferences. *Musicae Scientiae*. https://doi.org/10. 1177/1029864917718606
- Garrido, S., Eerola, T., & McFerran, K. (2017). Group rumination: Social interactions around music in people with depression. *Frontiers in Psychology, Section Personality and Social Psychology*. https://doi.org/10.3389/fpsyg.2017.00490
- Hadley, L. V., P., S., Eerola, T., & Pickering, M. J. (2017). Incremental comprehension of pitch relationships in written music: Evidence from eye movements. *The Quarterly Journal of Experimental Psychology*. https://doi.org/10.1080/17470218.2017.1307861
- Jakubowski, K., Eerola, T., Alborno, P., Volpe, G., Camurri, A., & Clayton, M. (2017). Extracting Coarse Body Movements from Video in Music Performance: A Comparison of Automated Computer Vision Techniques with Motion Capture Data. *Frontiers in Digital Humanities*, 4(9). https://doi.org/10.3389/fdigh.2017.00009
- Pearce, M. T., & Eerola, T. (2017). Music perception in historical audiences: Towards predictive models of music perception in historical audiences. *Journal of Interdisciplinary Studies of Music*, 8(1–2), 91–120.
- Putkinen, V., Makkonen, T., & Eerola, T. (2017). Music-induced positive mood broadens the scope of auditory attention. *Social, Cognitive and Affective Neuroscience*. https://doi.org/10.1093/scan/nsx038
- Reybrouck, M., & Eerola, T. (2017). Music and its inductive power: a psychobiological and evolutionary approach to musical emotions. *Frontiers in Human Neuroscience*. https://doi.org/10.3389/fpsyg.2017.00494
- Vuoskoski, J. K., & Eerola, T. (2017). Explaining the enjoyment of negative emotions evoked by the arts: The need to consider empathy and other underlying mechanisms of emotion induction. *Behavioral and Brain Sciences*, 40, 42–43. https://doi.org/10.1017/S0140525X1700187X
- Vuoskoski, J. K., & Eerola, T. (2017). The pleasure evoked by sad music is mediated by feelings of being moved. *Frontiers in Psychology*, *8*, 439. https://doi.org/10.3389/fpsyg.2017.00439
- Brattico, E., Bogert, B., Alluri, V., Tervaniemi, M., Eerola, T., & Jacobsen, T. (2016). It's sad but I like it: The neural dissociation between musical emotions and liking in experts and laypersons. *Frontiers in Human Neuroscience*, *9*(6), http://dx.doi.org/10.3389/fnhum.2015.00676.
- Eerola, T. (2016). Expectancy-violation and information-theoretic models of melodic complexity. *Empirical Musicology Review*, *11*(1), 2–17. https://doi.org/http://dx.doi.org/10.18061/emr.v11i1.4836
- Eerola, T., & Peltola, H.-R. (2016). Memorable Experiences with Sad Music Reasons, Reactions and Mechanisms of Three Types of Experiences. *Plosone*, *11*(6), e157444. https://doi.org/http://dx.doi.org/10.1371/journal. pone.0157444
- Eerola, T., Vuoskoski, J. K., & Kautiainen, H. (2016). Being Moved by Unfamiliar Sad Music Is Associated with High Empathy. *Frontiers in Psychology*, *7*, 1176. https://doi.org/10.3389/fpsyg.2016.01176
- Hausmann, M., Hodgetts, S., & Eerola, T. (2016). Music-induced changes in functional cerebral asymmetries. *Brain and Cognition*, 104(58–71).

- Lahdelma, I., & Eerola, T. (2016). Mild dissonance preferred over consonance in single chord perception. *I- Perception*, 7(3), 1–21. https://doi.org/10.1177/2041669516655812
- Lahdelma, I., & Eerola, T. (2016). Single chords convey distinct emotional qualities to both na\ive and expert listeners. *Psychology of Music*, 44(1), 37–54. https://doi.org/10.1177/0305735614552006
- Peltola, H.-R., & Eerola, T. (2016). Fifty Shades of Blue: Classification of music-evoked sadness. *Musicae Scientiae*, 20(1), 84–102. https://doi.org/10.1177/1029864915611206
- Saari, P., Eerola, T., Barthet, M., Fazekas, G., & Lartillot, O. (2016). Genre-adaptive Semantic Computing and Audio-based Modelling for Music Mood Annotation. *IEEE Transactions on Affective Computing*, 7(2), 122–135. https://doi.org/10.1109/TAFFC.2015.2462841
- Eerola, T., Peltola, H.-R., & Vuoskoski, J. K. (2015). Attitudes towards sad music are related to both preferential and contextual strategies. *Psychomusicology: Music, Mind, And Brain*, 25(2), 116–123. https://doi.org/10. 1037/pmu0000096
- Juslin, P. N., Barradas, G., & Eerola, T. (2015). From Sound to Significance: Exploring the Mechanisms Underlying Emotional Reactions to Music. *American Journal of Psychology*, 128(3), 281–304. https://doi.org/10.5406/amerjpsyc.128.3.0281
- Lahdelma, I., & Eerola, T. (2015). Theoretical proposals how vertical harmony may convey nostalgia and longing in music. *Empirical Musicology Review*, *10*(3), 245–263. https://doi.org/http://emusicology.org/article/view/4534/4151
- Vuoskoski, J. K., & Eerola, T. (2015). Extramusical information contributes to emotions induced by music. *Psychology of Music*, *43*(2), 262–274. https://doi.org/10.1177/0305735613502373
- Eerola, P.-S., & Eerola, T. (2014). Extended Music Education Enhances the Quality of School Life. *Music Education Research*, *16*(1), 88–104. https://doi.org/10.1080/14613808.2013.829428
- Saari, P., & Eerola, T. (2014). Semantic Computing of Moods Based on Tags in Social Media of Music. *IEEE Transactions on Knowledge and Data Engineering*, 26(10), 2548–2560. https://doi.org/10.1109/TKDE.2013. 128
- Eerola, T., Friberg, A., & Bresin, R. (2013). Emotional Expression in Music: Contribution, Linearity, and Additivity of Primary Musical Cues. *Frontiers in Psychology*, 4(487). https://doi.org/10.3389/fpsyg.2013.00487
- Ferrer, R., Eerola, T., & Vuoskoski, J. K. (2013). Enhancing genre-based measures of music preference by user-defined liking and social tags. *Psychology of Music*, *41*(4), 499–518. https://doi.org/10.1177/0305735612440611
- Juslin, P. N., Harmat, L., & Eerola, T. (2013). What Makes Music Emotionally Significant? Exploring the Underlying Mechanisms. *Psychology of Music*, *42*(4), 599–623. https://doi.org/10.1177/0305735613484548
- Laukka, P., Eerola, T., Thingujam, N. S., Yamasaki, T., & Beller, G. (2013). Universal and Culture-Specific Factors in the Recognition and Performance of Musical Emotions. *Emotion*, *13*(3), 434–449. https://doi.org/10.1037/a 0031388
- Aho, M., & Eerola, T. (2012). Expressive Performance cues in Gypsy Swing Guitar Style. *Journal of Interdisciplinary Studies of Music*.
- Eerola, T. (2012). Finnish Centre of Excellence in Interdisciplinary Music Research. *Psychomusicology: Music, Mind, And Brain, 22*(2), 180–182.
- Eerola, T. (2012). Modeling Listeners' Emotional Response to Music. *Topics in Cognitive Science*, 4(4), 607–624. https://doi.org/10.1111/j.1756-8765.2012.01188.x
- Eerola, T., & Vuoskoski, J. K. (2012). A review of music and emotion studies: Approaches, emotion models and stimuli. *Music Perception*, *30*(3), 307–340. https://doi.org/10.1525/mp.2012.30.3.307
- Eerola, T., Ferrer, R., & Alluri, V. (2012). Timbre and affect dimensions: Evidence from affect and similarity ratings and acoustic correlates of isolated instrument sounds. *Music Perception*, *30*(1), 49–70. https://doi.org/10. 1525/mp.2012.30.1.49

- Tuuri, K., & Eerola, T. (2012). Formulating a Revised Taxonomy for Modes of Listening. *Journal of New Music Research*, 41(2), 137–152. https://doi.org/10.1080/09298215.2011.614951
- Vuoskoski, J. K., & Eerola, T. (2012). Can sad music really make you sad? Indirect measures of affective states induced by music and autobiographical memories. *Psychology of Aesthetics, Creativity, And the Arts*, 6(3), 204–213. https://doi.org/10.1037/a0026937
- Vuoskoski, J. K., Thompson, B., McIlwain, D., & Eerola, T. (2012). Who enjoys listening to sad music and why?. *Music Perception*, 29(3), 311–317. https://doi.org/10.1525/mp.2012.29.3.311
- Eerola, T. (2011). Are the emotions expressed in music genre-specific? An audio-based evaluation of datasets spanning classical, film, pop and mixed genres. *Journal of New Music Research*, 40(4), 349–366. https://doi.org/10.1080/09298215.2011.602195
- Eerola, T., & Vuoskoski, J. K. (2011). A comparison of the discrete and dimensional models of emotion in music. *Psychology of Music*, 39(1), 18–49. https://doi.org/10.1177/0305735610362821
- Ferrer, R., & Eerola, T. (2011). Semantic Structures of Timbre Emerging From Social and Acoustic Descriptions of Music. *Journal on Audio, Speech, And Music Processing*, 11. https://doi.org/10.1186/1687-4722-2011-11
- Lamont, A., & Eerola, T. (2011). Music and emotion: Themes and development. Musicae Scientiae, 15(2), 1-7.
- Punkanen, M., Eerola, T., & Erkkilä, J. (2011). Biased emotional preferences in depression: Decreased liking of angry and energetic music by depressed patients. *Music and Medicine*, 3(2), 114–120. https://doi.org/10. 47513/mmd.v3i2.250
- Punkanen, M., Eerola, T., & Erkkilä, J. (2011). Biased emotional recognition in depression: Perception of emotions in music by depressed patients. *Journal of Affective Disorders*, *130*, 118–126. https://doi.org/10.1016/j.jad.2010.10.034
- Saari, P., Eerola, T., & Lartillot, O. (2011). Generalizability and Simplicity as Criteria in Feature Selection: Application to Mood Classification in Music. *IEEE Transactions on Audio, Speech, And Language Processing*, 19(6), 1802–1812. https://doi.org/10.1109/TASL.2010.2101596
- Tuuri, K., Eerola, T., & Pirhonen, A. (2011). Design and evaluation of prosody-based non-speech audio feedback for physical training application. *International Journal of Human-Computer Studies*, 69, 741–757. https://doi.org/10.1016/j.ijhcs.2011.06.004
- Vuoskoski, J. K., & Eerola, T. (2011). Measuring music-induced emotion: A comparison of emotion models, personality biases, and intensity of experiences. *Musicae Scientiae*, *15*(2), 159–173. https://doi.org/10.1177/1029864911403367
- 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. https://doi.org/https://doi.org/10.1016/j.cortex.2011.04.011
- Eerola, T. (2010). Analysing emotions in Schubert's Erlkönig: A computational approach. *Music Analysis*, 29(1–3), 214–233.
- Zentner, M. R., & Eerola, T. (2010). Rhythmic engagement with music in infancy. *PNAS*, *107*(13), 5768–5773. https://doi.org/10.1073/pnas.1000121107
- Eerola, T., Louhivuori, J., & Lebaka, E. (2009). Expectancy in North Sami yoiks revisited: the role of data-driven and schema-driven knowledge in the formation of melodic expectations. *Musicae Scientiae*, *13*(2), 39–70. https://doi.org/https://doi.org/10.1177/102986490901300203
- Brattico, E., Pallesen, K., Varyagina, O., Anourova, I., Järvenpää, M., Eerola, T., & Tervaniemi, M. (2008). Neural discrimination of non-prototypical chords in music experts and laymen An MEG study. *Journal of Cognitive Neuroscience*, *21*(11), 2230–2244. https://doi.org/10.1162/jocn.2008.21144
- Eerola, T., & Ferrer, R. (2008). Instrument Library (MUMS) Revised. *Music Perception*, 25(3), 253–255. https://doi.org/10.1525/mp.2008.25.3.253
- Lartillot, O., Toiviainen, P., & Eerola, T. (2008). Commentary on 'Comparative Analysis of Music Recordings from Western and Non-Western Traditions by Automatic Tonal Feature Extraction' by Emilia Gómez, and Perfecto Herrera. *Empirical Musicology Review*, *3*(3), 157–160.

- Eerola, T., & Bregman, M. (2007). Melodic and contextual similarity of folk song phrases. *Musicae Scientiae*, 211–233. https://doi.org/10.1177/102986490701100109
- Toiviainen, P., Erkkilä, J., T., E., G., L., & Lartillot, O. (2007). Music cognition research amidst the boreal forest. *Cognitive Processing*, 8(1), 57–62.
- Eerola, T., Himberg, T., Toiviainen, P., & Louhivuori, J. (2006). Perceived complexity of Western and African folk melodies by Western and African listeners. *Psychology of Music*, *34*(3), 341–375. https://doi.org/10.1177/0305735606064842
- Toiviainen, P., & Eerola, T. (2006). Autocorrelation in meter induction: The role of accent structure. *The Journal of the Acoustical Society of America*, 119(2), 1164–1170. https://doi.org/10.1121/1.2146084
- Eerola, T. (2005). Musiikin alkuperä ja evoluutiopsykologia. *Tieteessä Tapahtuu*, *3*, 27–32.
- Eerola, T., & Toiviainen, P. (2005). Musiikkiteknologia kognitiivisen musiikintutkimuksen renkinä. *Musiikki*, 32, 6–33.
- Toiviainen, P., & Eerola, T. (2005). Musiikkitietokannat kansanmusiikin tutkimuksessa. *Musiikin Suunta*, 1, 5–11.
- Hannon, E., Snyder, J., Eerola, T., & Krumhansl, C. L. (2004). The role of melodic and temporal cues in perceiving musical meter. *Journal of Experimental Psychology: Human Perception and Performance*, *30*(5), 956–974. https://doi.org/10.1037/0096-1523.30.5.956
- Eerola, T., Järvinen, T., Louhivuori, J., & Toiviainen, P. (2001). Statistical features and perceived similarity of folk melodies. *Music Perception*, 18(3), 275–296.
- Krumhansl, C. L., Toivanen, P., Eerola, T., Toiviainen, P., Järvinen, T., & Louhivuori, J. (2000). Cross-cultural music cognition: Cognitive methodology applied to North Sami yoiks. *Cognition*, 76(1), 13–58. https://doi.org/10. 1016/S0010-0277(00)00068-8
- Krumhansl, C. L., Louhivuori, J., Toiviainen, P., Järvinen, T., & Eerola, T. (1999). Melodic expectation in Finnish spiritual folk hymns: Convergence of statistical, behavioral, and computational approaches. *Music Perception*, *17*(2), 151–195. https://doi.org/10.2307/40285890
- Eerola, T. (1997). Beatles-yhtyeen kokeilevan kauden nousu ja tuho. Etnomusikologian Vuosikirja, 9, 158–182.

### **Books and Edited Books** \_\_\_\_

- Eerola, T. (2025). Music and Science A Guide to Empirical Research. Routledge.
- Eerola, T., Myllyaho, M., Pöyhönen, M., Savolainen, P., & Toiviainen, P. (2006). *Musica viva! Matti Vainion juhlakirja*. Minerva.
- Eerola, T., & Toiviainen, P. (2005). Suomen musiikintutkijoiden symposiumin satoa. Jyväskylän yliopisto.
- Eerola, T., & Toiviainen, P. (2004). Suomen Kansan eSävelmät. Digitaalinen tietovaranto. http://www.jyu.fi/musica/sks/
- Eerola, T. (2003). The dynamics of musical expectancy: cross-cultural and statistical approaches to melodic expectations. University of Jyväskylä.
- Eerola, T., & Toiviainen, P. (2003). MIDI toolbox: Matlab tools for music research. University of Jyväskylä.
- Eerola, T., Louhivuori, J., & Moisala, P. (2003). *Johdatus musiikintutkimukseen*. Suomen musiikkitieteellinen seura.
- Erkkilä, J., & Eerola, T. (2001). *Hallitsetko sinä pelejä vai pelit sinua? Tutkimus ongelmapelaajien monimenetelmäisestä kuntoutusprojektista*. Suomen musiikkiterapiayhdistys ry.

# Chapters \_\_\_\_\_

Eerola, T. (2023). Future Perspectives and Challenges. In M. Küssner, L. Taruffi, & G. A. Floridou (Eds.), *Music and Mental Imagery* (pp. 281–288). Routledge. https://doi.org/10.4324/9780429330070-30

- Eerola, T., & Vuoskoski, J. K. (2021). Personality and Listeners. In K. Olsen & W. F. Thompson (Eds.), *The Science and Psychology of Music: From Mozart at the Office to Metallica at the Gym* (pp. 141–145). ABC-CLIO.
- Vuoskoski, J. K., & Eerola, T. (2021). Personality and Musicians. In K. Olsen & W. F. Thompson (Eds.), *The Science and Psychology of Music: From Mozart at the Office to Metallica at the Gym* (pp. 145–150). ABC-CLIO.
- Eerola, T. (2018). Music and Emotion. In R. Bader & S. Koelsch (Eds.), *Handbook of Systematic Musicology* (pp. 539–556). Springer.
- Eerola, T. (2018). Three controversies of Music & emotion: Neuroscience and psychology of sadness and music. In P. Gouk, J. Kennaway, P. J, & W. Thormahlen (Eds.), *The Routledge Companion to Music, Mind, and Wellbeing* (pp. 219–234). Routledge. https://doi.org/https://doi.org/10.4324/9781315164717
- Eerola, T. (2014). Music in the Social and Behavioral Sciences: An Encyclopedia. In W. F. Thompson (Ed.), *Music in the Social and Behavioral Sciences, An Encyclopedia* (pp. 227–229). SAGE.
- Eerola, T. (2014). Music in the Social and Behavioral Sciences: An Encyclopedia. In W. F. Thompson (Ed.), *Music in the Social and Behavioral Sciences, An Encyclopedia* (pp. 316–319). SAGE.
- Eerola, T. (2014). Music in the Social and Behavioral Sciences: An Encyclopedia. In W. F. Thompson (Ed.), *Music in the Social and Behavioral Sciences, An Encyclopedia* (pp. 1003–1006). SAGE.
- Eerola, T. (2014). Music in the Social and Behavioral Sciences: An Encyclopedia. In W. F. Thompson (Ed.), *Music in the Social and Behavioral Sciences*, *An Encyclopedia* (pp. 684–688). SAGE.
- Eerola, T., & Punkanen, M. (2012). King of Sorrow Perception and experience of sadness in music. In *King of Sorrow Perception and experience of sadness in music* (pp. 31–52). Nova.
- Eerola, T. (2010). Evoluutiopsykologia ja musiikki. In J. Louhivuori & S. Saarikallio (Eds.), *Musiikkipsykologia* (pp. 343–353). Atena Kustannus.
- Eerola, T. (2010). Musical taste and attitudes of a Finnish listener educated in humanities. In N. Schuler & others (Eds.), *Musical listening habits of College students in Finland, Slovenia, South Africa, and Texas: Similarities and Differences* (pp. 59–70). Peter Lang.
- Eerola, T. (2010). Musiikki ja kuluttajakäyttäytyminen. In J. Louhivuori & S. Saarikallio (Eds.), *Musiikkipsykologia* (pp. 327–339). Atena Kustannus.
- Eerola, T. (2010). Musiikkipsykologian historia. In J. Louhivuori & S. Saarikallio (Eds.), *Musiikkipsykologia* (pp. 13–30). Atena Kustannus.
- Eerola, T., & Saarikallio, S. (2010). Musiikki ja tunteet. In J. Louhivuori & S. Saarikallio (Eds.), *Musiikkipsykologia* (pp. 259–278). Atena Kustannus.
- Erkkilä, J., & Eerola, T. (2010). Gambling Addiction: Evaluation of a Multimethod Treatment Programme Including Music Therapy. In D. Aldridge & J. Fachner (Eds.), *Music Therapy and Addictions* (pp. 132–151). Jessica Kingsley.
- Zentner, M. R., & Eerola, T. (2010). Self-report measures and models. In P. N. Juslin & J. A. Sloboda (Eds.), *Handbook of Music and Emotion* (pp. 187–221). Oxford University Press.
- Fornari, J., & Eerola, T. (2009). The Pursuit of Happiness in Music: Retrieving Valence with Contextual Music Descriptors. In *Computer Music Modeling and Retrieval. Genesis of Meaning in Sound and Music* (Vol. 5493, pp. 119–133). Springer. https://doi.org/0910.1007/978-3-642-02518-1
- Lartillot, O., Toiviainen, P., & Eerola, T. (2008). A Matlab Toolbox for Music Information Retrieval. In C. Preisach, H. Burkhardt, L. Schmidt-Thieme, & R. Decker (Eds.), *Data Analysis, Machine Learning and Applications* (pp. 261–268). Springer.
- Toiviainen, P., & Eerola, T. (2007). Musiikki, tiede, kognitio ja teknologia moderni musiikintutkimuksen paradigma. In H. Hanka, I. Ylönen, & M.-L. Tynkkynen (Eds.), *Humanistista kirjoa* (pp. 105–119). University of Jyväskylä.
- Eerola, T., & Toiviainen, P. (2006). Ilmari Krohn musiikin sisältöhaun pioneeri. In T. Eerola, M. Myllyaho, M. Pöyhönen, P. Savolainen, & P. Toiviainen (Eds.), *Musica viva! Matti Vainion juhlakirja* (pp. 113–121). Minerva.

- Eerola, T. (2003). Musiikintutkimusta edistäviä järjestöjä. In T. Eerola, J. Louhivuori, & P. Moisala (Eds.), *Johdatus musiikintutkimukseen* (pp. 381–384). Suomen musiikkitieteellinen seura.
- Eerola, T. (2003). Musiikkipsykologia. In T. Eerola, J. Louhivuori, & P. Moisala (Eds.), *Johdatus musiikintutkimukseen* (pp. 259–270). Suomen musiikkitieteellinen seura.
- Eerola, T., Louhivuori, J., & Moisala, P. (2003). Musiikintutkimuksen koulutus Suomessa. In T. Eerola, J. Louhivuori, & P. Moisala (Eds.), *Johdatus musiikintutkimukseen* (pp. 405–412). Suomen musiikkitieteellinen seura.
- Toiviainen, P., Eerola, T., & Louhivuori, J. (2003). Kognitiivinen musiikkitiede. In T. Eerola, J. Louhivuori, & P. Moisala (Eds.), *Johdatus musiikintutkimukseen* (pp. 87–110). Suomen musiikkitieteellinen seura.
- Heinonen, Y., & Eerola, T. (2000). The Beatles and their times. Thoughts on the "relative autonomy" of stylistic change. In *Beatlestudies 2: History, Identity, Authenticity* (pp. 1–42). University of Jyväskylä.
- Eerola, T. (1998). The rise and fall of the experimental style of the Beatles. In *Beatlesstudies 1* (pp. 33–60). University of Jyväskylä.
- Heinonen, Y., & Eerola, T. (1998). Songwriting, recording, and style change. Problems in the chronology and periodization of the musical style of the Beatles. In *Beatlesstudies 1* (pp. 1–32). University of Jyväskylä.

# **Peer-reviewed Proceedings**

- Eerola, T. (2014). Modelling Emotions in Music: Advances in Conceptual, Contextual and Validity Issues. *AES 53rd INTERNATIONAL CONFERENCE, London, UK, 2014 January 27–29*.
- Saari, P., Barthet, M., Fazekas, G., Eerola, T., & Sandler, M. (2013). Semantic Models of Mood Expressed by Music: Comparison between Crowd-sourced and Curated Editorial Annotations. *IEEE International Conference on Multimedia and Expo (ICME 2013): International Workshop on Affective Analysis in Multimedia (AAM)*.
- Saari, P., Eerola, T., Fazekas, G., Barthet, M., Lartillot, O., & Sandler, M. (2013). The Role of Audio and Tags in Music Mood Prediction: a Study Using Semantic Layer Projection. *ISMIR Brazil*.
- Tuuri, K., Eerola, T., & Pirhonen, A. (2010). Leaping Across Modalities: Speed Regulation Messages in Audio and Tactile Domains. *Proceedings of the 5th International Workshop on Haptic and Audio Interaction Design (HAID), Copenhagen, Denmark.*
- Eerola, T., & Ferrer, R. (2009). Setting the Standards: Normative data on audio-based musical features for musical genres. 7th Triennial Conference of European Society for the Cognitive Sciences of Music, University of Jyväskylä, Finland, August 12-16, 2009.
- Eerola, T., & Vuoskoski, J. K. (2009). Music that stirs up emotions? A review of approaches, models and stimuli used in music and emotion studies. 7th Triennial Conference of European Society for the Cognitive Sciences of Music, University of Jyväskylä, Finland, August 12-16, 2009.
- Eerola, T., Friberg, A., & Bresin, R. (2009). The microstructure of emotional expression in music: Relative importance and range of seven musical features. 7th Triennial Conference of European Society for the Cognitive Sciences of Music, University of Jyväskylä, Finland, August 12-16, 2009.
- Ferrer, R., Eerola, T., & Vuoskoski, J. K. (2009). Is preference for musical genres an adequate measure of musical taste?. 7th Triennial Conference of European Society for the Cognitive Sciences of Music, University of Jyväskylä, Finland, August 12-16, 2009.
- Vuoskoski, J. K., & Eerola, T. (2009). The role of personality in the perception and experience of music-mediated emotions. 7th Triennial Conference of European Society for the Cognitive Sciences of Music, University of Jyväskylä, Finland, August 12-16, 2009.
- Fornari, J., & Eerola, T. (2008). Predicting Emotional Prosody of Music with High-Level Acoustic Features. *EMUS Expressivity in Music and Speech*.
- Tuuri, K., & Eerola, T. (2008). Identifying Function-Specific Prosodic Cues for the Needs of Non-Speech User Interface Sound Design. *Proceedings of the 11th International Conference on Digital Audio Effects (Dafx-08), Espoo, Finland, September 1-4, 2008.*

- Erkkilä, J., & Eerola, T. (2001). Music therapy methods in the treatment of gambling addiction. *Proceedings of the European Conference of Music Therapy, Naples, Italy*.
- Abeßer, J., Lartillot, O., Dittmar, C., Eerola, T., & Schuller, G. (2011). Modeling Musical Attributes to Characterize Ensemble Recordings Using Rhythmic Audio Features. *Acoustics, Speech and Signal Processing (ICASSP)*, 2011 IEEE International Conference on, 189–192.
- Eerola, T. (2004). Data-driven influences on melodic expectancy: Continuations in North Sami Yoiks rated by South African traditional healers. *Proceedings of the 8th International Conference on Music Perception & Cognition, Evanston, IL, 2004*, 83–87.
- Eerola, T. (2008). Mapping Musical Features to Perceived Emotions Using Partial Least Squares Regression. *Proceedings of the 10th International Conference on Music Perception and Cognition (Icmpc10)*, 721–726.
- Eerola, T. (2013). Modelling Emotional Effects of Music: Key Areas of Improvement. In R. Bresin (Ed.), *Proceedings of the Sound and Music Computing Conference 2013, SMC 2013, Stockholm, Sweden* (pp. 269–276). KTH Royal Institute of Technology.
- Eerola, T. (1997). The rise and fall of the experimental style of the Beatles: The life span of stylistic periods in music. In A. Gabrielsson (Ed.), *Proceedings of the Third Triennial European Society for the Cognitive Science of Music (ESCOM) Conference* (pp. 377–381). Dept. of Psychology, Uppsala University.
- Eerola, T., & North, A. C. (2000). Expectancy-based model of melodic complexity. In C. Woods, G. B. Luck, R. Brochard, S. A. O'Neill, & J. A. Sloboda (Eds.), *Proceedings of the Sixth International Conference on Music Perception and Cognition* (pp. 1177–1183). Department of Psychology, Keele University.
- Eerola, T., & North, A. C. (2000). Expectancy-based model of melodic complexity. *Proceedings XVI Congress of the International Association of Empirical Aesthetics*, 46–47.
- Eerola, T., & Toiviainen, P. (2004). MIR in Matlab: The Midi Toolbox. *Proceedings of 5th International Conference on Music Information Retrieval (ISMIR 2004)*, 22–27.
- Eerola, T., & Toiviainen, P. (2005). Musiikin metrin laskennallinen tunnistaminen. *Suomen Musiikintutkijoiden Symposiumin Satoa*, 25–29.
- Eerola, T., Alluri, V., & Ferrer, R. (2008). Emotional Connotations of Isolated Instruments Sounds. *Proceedings of the 10th International Conference on Music Perception and Cognition (Icmpc10)*, 483–489.
- Eerola, T., Järvinen, T., Louhivuori, J., & Toiviainen, P. (2000). Categorising folk melodies using similarity ratings. *Proceedings of the Sixth International Conference on Music Perception and Cognition*, 677–682.
- Eerola, T., Lartillot, O., & Toiviainen, P. (2009). Prediction of Multidimensional Emotional Ratings in Music from Audio Using Multivariate Regression Models. In K. Hirata & G. Tzanetakis (Eds.), *Proceedings of 10th International Conference on Music Information Retrieval (ISMIR 2009)* (pp. 621–626). International Society for Music Information Retrieval.
- Eerola, T., Luck, G., & Toiviainen, P. (2006). An investigation of pre-schoolers' corporeal synchronization with music. In M. Baroni, A. R. Addessi, R. Caterina, & M. Costa (Eds.), *Proceedings of the 9th International Conference on Music Perception & Cognition, Bologna, 2006* (pp. 472–476). ICMPC, ESCOM.
- Eerola, T., Toiviainen, P., & Krumhansl, C. L. (2002). Real-time prediction of melodies: Continuous predictability judgments and dynamic models. *Proceedings of the 7th International Conference on Music Perception and Cognition*, 473–476.
- Ferrer, R., & Eerola, T. (2011). AMP: Artist-based Musical Preferences Derived from Free Verbal Responses and Social Tags. *Proceedings of the IEEE International Conference on Multimedia and Expo (ICME 2011)*, 1–6.
- Ferrer, R., & Eerola, T. (2011). Looking Beyond Genres: Identifying Meaningful Semantic Layers from Tags in Online Music Collections. *Machine Learning and Applications and Workshops (ICMLA), 2011 10th International Conference on, 2,* 112–117.
- Ferrer, R., & Eerola, T. (2010). Timbral Qualities of Semantic Structures of Music. In J. S. Downie & R. C. Veltkamp (Eds.), *Proceedings of 11th International Conference on Music Information Retrieval (ISMIR 2010)* (pp. 571–576).

- Fornari, J., & Eerola, T. (2008). Estimating the Perception of Complexity in Musical Harmony. *Proceedings of the 10th International Conference on Music Perception and Cognition (Icmpc10)*, 254–257.
- Grimaud-Micallef, A., Eerola, T., & Collins, N. (2019). EmoteControl: A System for Live-Manipulation of Emotional Cues in Music. *Proceedings of the 14th International Audio Mostly Conference: A Journey in Sound on ZZZ*, 111–115. https://doi.org/10.1145/3356590.3356608
- Lartillot, O., Eerola, T., Toiviainen, P., & Fornari, J. (2008). Multi-Feature Modeling of Pulse Clarity: Design, Validation, and Optimisation. *International Conference on Digital Audio Effects (Dafx-08), Espoo, Finland, September 1-4, 2008*, 305–308.
- Lartillot, O., Eerola, T., Toiviainen, P., & Fornari, J. (2008). Multi-feature modeling of pulse clarity: Design, validation, and optimization. *ISMIR 2008 International Conference on Music Information Retrieval*, 521–526.
- Lartillot, O., Eerola, T., Toiviainen, P., Fornari, O., J. Lartillot, Eerola, T., Toiviainen, P., & Fornari, J. (2008). Multi-Feature Modeling of Pulse Clarity from Audio. *Proceedings of the 10th International Conference on Music Perception and Cognition (Icmpc10)*, 531–539.
- Laurier, C., Lartillot, O., Eerola, T., & Toiviainen, P. (2009). Exploring relationships between audio features and emotion in music. In J. Louhivuori, T. Eerola, S. Saarikallio, T. Himberg, & P.-S. Eerola (Eds.), *Proceedings of the 7th Triennal Conference of European Society for Cognitive Sciences of Music (ESCOM 2009) Jyväskylä, Finland* (pp. 260–264). European Society for Cognitive Sciences of Music.
- Louhivuori, J., & Eerola, T. (2001). Cross-cultural approach in music cognition. *Proceedings of the VII International Symposium on Systematic and Comparative Musicology and III International Conference on Cognitive Musicology*, 107.
- Paschalidou, S., Eerola, T., & Clayton, M. (2016). Voice and Movement As Predictors of Gesture Types and Physical Effort in Virtual Object Interactions of Classical Indian Singing. *Proceedings of the 3rd International Symposium on Movement and Computing*, 1–2. https://doi.org/10.1145/2948910.2948914
- Saari, P., Eerola, T., Fazekas, G., & Sandler, M. (2013). Using Semantic Layer Projection for Enhancing Music Mood Prediction With Audio Features. In B. R. (Ed.), *Proceedings of the Sound and Music Computing Conference 2013, SMC 2013, Stockholm, Sweden* (pp. 722–728).
- Toiviainen, P., & Eerola, T. (2002). A computational model of melodic similarity based on multiple representations and self-organizing maps. *Proceedings of the 7th International Conference on Music Perception and Cognition*, 236–239.
- Toiviainen, P., & Eerola, T. (2001). A method for comparative analysis of folk music based on musical feature extraction and neural networks. *Proceedings of the VII International Symposium on Systematic and Comparative Musicology and III International Conference on Cognitive Musicology*, 41–45.
- Toiviainen, P., & Eerola, T. (2005). Classification of musical metre with autocorrelation and discriminant functions. *Proceedings of 6th International Conference on Music Information Retrieval (ISMIR 2005)*, 351–357.
- Toiviainen, P., & Eerola, T. (2004). The role of accent periodicities in meter induction: A classification study. *Proceedings of the 8th International Conference on Music Perception & Cognition, Evanston, 2004*, 422–425.
- Toiviainen, P., & Eerola, T. (2006). Visualization in comparative music research. In A. Rizzi & M. Vichi (Eds.), *COMPSTAT 2006 Proceedings in Computational Statistics* (pp. 209–221). Physica-Verlag.
- Toiviainen, P., & Eerola, T. (2003). Where is the beat?: Comparison of Finnish and South African listeners. *Proceedings of the 5th Triennial ESCOM Conference*, 501–504.
- Tuuri, K., & Eerola, T. (2008). Could Function-Specific Prosodic Cues be Used as a Basis for Non-Speech User Interface Sound Design?. In P. Susini & O. Warusfel (Eds.), *Proceedings of the 14th International Conference on Auditory Display*. IRCAM (Institut de Recherche et Coordination Acoustique/Musique). http://icad08.ircam.fr/proceed/Presentation/O\_08.pdf
- Vuoskoski, J. K., & Eerola, T. (2010). Domain-Specific or Not? The Applicability of Different Emotion Models in the Assessment of Music-Induced Emotions. *Proceedings of the 10th International Conference on Music Perception and Cognition (Icmpc10)*, 196–199.

Vuoskoski, J. K., & Eerola, T. (2012). Empathy contributes to the intensity of music-induced emotions. *Proceedings of the 10th International Conference on Music Perception and Cognition (Icmpc10)*, 1112–1113.

### Datasets\_

- Armitage, J., & Eerola, T. (2021). Cross-modal Transfer of Valence or Arousal from Music to Word Targets in Affective *Priming?*. https://osf.io/qau7nhttps://osf.io/qau7n
- Armitage, J., Lahdelma, I., & Eerola, T. (2021). *Automatic responses to musical intervals: Contrasts in acoustic roughness predict affective priming in Western listeners*.https://github.com/tuomaseerola/primingroughnessdata
- Eerola, T. (2021). *inconMore More data for Computational Models of Simultaneous Consonance*.https://github.com/tuomaseerola/inconMore
- Eerola, T. (2021). Music science data.https://github.com/tuomaseerola/MusicScienceData
- Eerola, T., & Lahdelma, I. (2021). Consonance and register: A pre-registration of an empirical exploration of the impact of register on consonance.https://doi.org/10.17605/OSF.IO/76NHB
- Eerola, T., & Lahdelma, I. (2021). Durham Chord Dataset. https://github.com/tuomaseerola/DCD
- Eerola, T., & Lahdelma, I. (2021). *Register Impacts Perceptual Consonance through Roughness and Sharpness*.https://github.com/tuomaseerola/consonance-register
- Eerola, T., & Lahdelma, I. (2021). *The Anatomy of Consonance/Dissonance: Evaluating Acoustic and Cultural Predictors Across Multiple Datasets with Chords*.https://github.com/tuomaseerola/anatomy-of-consonance
- Eerola, T., Athanasopoulos, G., & Lahdelma, I. (2021). Sweetness is in the ear of the beholder: Chord preference across United Kingdom and Pakistani listeners.https://github.com/tuomaseerola/pakistan-chords
- Eerola, T., Lahdelma, I., & Armitage, J. (2021). *Re-analysis of consonance and harmonicity in Friedman et al. data*.https://github.com/tuomaseerola/friedman\_reanalysis
- Eerola, T., Vuoskoski, J. K., Kautiainen, H., Peltola, H.-R., Putkinen, V., & Schäfer, K. (2021). *Being moved by listening to unfamiliar sad music induces reward-related hormonal changes in empathic listeners*.https://github.com/tuomaseerola/sad-music-hormones
- Jakubowski, K., & Eerola, T. (2021). *Autobiographical memories cued by emotional music, sounds, and words*.https://osf.io/dhcjb
- Lahdelma, I., Athanasopoulos, G., & Eerola, T. (2021). Sweetness of Harmony is in the Ear of the Beholder: Preference of Musical Chords Across Western and Northwest Pakistani Listeners. OSF.osf.io/ucjqr
- Micallef Grimaud, A., & Eerola, T. (2021). Emotion manipulation through music.https://osf.io/fy4h6
- Armitage, J., & Eerola, T. (2020). Response Time Data in Music Cognition.https://osf.io/yhsqv
- Eerola, T. (2020). Ground-truth data for selected perceptual features.https://doi.org/10.17605/OSF.IO/6WQH5
- Eerola, T., Lahdelma, I., & Athanasopoulos, G. (2020). Emotion and Harmonisations.https://osf.io/wq4tp
- Jakubowski, K., Belfi, A., & Eerola, T. (2020). *Music- and television-evoked autobiographical memories from a representative UK sample*.https://osf.io/t9pfb
- Lahdelma, I., & Eerola, T. (2020). Cultural familiarity and musical expertise impact the pleasantness of consonance/dissonance but not its perceived tension.https://doi.org/10.1038/s41598-020-65615-8
- Lahdelma, I., Armitage, J., & Eerola, T. (2020). *Affective Priming with Musical Chords is Influenced by Pitch Numerosity*.https://osf.io/ghve9
- Clayton, M., Eerola, T., Tarsitani, S., Jankowsky, R., Jure, L., Poole, A., & Jakubowski, K. (2019). *Interpersonal Entrainment in Music Performance*. https://doi.org/10.17605/OSF.IO/37FWS
- Eerola, T. (2019). Music and emotion stimulus sets consisting of film soundtracks.https://osf.io/p6vkg

- Clayton, M., Eerola, T., Jakubowski, K., & Tarsitani, S. (2018). Interactions in Duo Improvisations. UK Data Archive.http://reshare.ukdataservice.ac.uk/852847/
- Eerola, T., & Saari, P. (2018). Moods and activities in music. UK Data Archive. https://doi.org/10.5255/UKDA-SN-852024https://dx.doi.org/10.5255/UKDA-SN-852024
- Bannister, S., & Eerola, T. (2017). Suppressing the Chills: Self-reports, physiological and psychoacoustic correlates. Harvard Dataverse. https://doi.org/10.7910/DVN/IUCN1Qhttp://dx.doi.org/10.7910/DVN/IUCN1Q
- Cespedes Guevara, J., & Eerola, T. (2017). Music communicates affects, not basic emotions A constructionist account of attribution of emotional meanings to music. Harvard Dataverse. https://doi.org/10.7910/DVN/ VLVLX9http://dx.doi.org/10.7910/DVN/VLVLX9
- Maksimainen, J., Wigren, J., Eerola, T., & Saarikallio, S. (2017). The effect of memory in inducing pleasant emotions of musical and pictorial stimuli. Harvard Dataverse. https://doi.org/10.7910/DVN/ZZR7WXhttp://dx. doi.org/10.7910/DVN/ZZR7WX
- Eerola, T. (2016). Music and emotion dataset (Primary Musical Cues). https://doi.org/10.7910/DVN/IFOBRNhttp:// dx.doi.org/10.7910/DVN/IFOBRN
- Eerola, T. (2016). Survey Data on Memorable Experiences with Sad Music Reasons, Reactions and Mechanisms of Three Types of Experiences. https://doi.org/10.7910/DVN/GLSIXBhttp://dx.doi.org/10.7910/DVN/GLSIXB
- Eerola, T., & Lahdelma, I. (2016). Data related to "Mild dissonance preferred over consonance in single chord perception". Harvard Dataverse. https://doi.org/10.7910/DVN/GE5PPLhttp://dx.doi.org/10.7910/DVN/GE5 PPL

Toiviainen, P., & Eerola, T. (2016). MIDI toolbox 1.1.https://github.com/miditoolbox/

# Non-peer-reviewed articles \_\_\_\_\_

Eerola, T. (2013). Review of Strong experiences with music (Book review). Psychomusicology, 23(1), 49-51.

Eerola, T. (2011). Tieteen popularisointia vai populismia?. Keskisuomalainen.

Eerola, T. (2009). Music, Thought, and Feeling: Understanding the Psychology of Music by William Forde Thompson: A compact and inspiring resource for teaching music cognition (Book review). *Musicae Scientiae*, 13(2), 224-226.

# Sample of Media Items \_\_\_\_\_

#### The Reason People Listen to Sad Songs

Interview with Oliver Whang 2023

The New York Times

Made in Tyne & Wear – regional TV station

Finnish Broadcasting Company YLE radio

USCBS/KCBS Radio (San Francisco, US)

2023

#### Do Sad Songs Say So Much?

RTE

https://www.rte.ie/radio/podcasts/22246773-the-culture-file-debate-060523-do-sad-songs-say-s/

Sad music and pleasure BBC Radio Suffolk

live interview 2016

#### **Enjoyment of sad music**

live interview 2016

#### Why some people enjoy sad but others not

live interview, http://areena.yle.fi/1-3524590 18/6/2016

#### **Hundreds of other similar stories in online news**

https://explorer.altmetric.com/details/8739361

### Pleasure of music

live interview, Michael Bower, Producer 16/9/2016

The power of music Deutschlandradio (Germany)

Tuomas Eerola · CV JULY 28, 2025

live interview 18/9/2016

Why sad songs say so much to some people but not others
https://theconversation.com/why-sad-songs-say-so-much-to-somepeople-but-not-others-65365](https://theconversation.com/why-sadsongs-say-so-much-to-some-people-but-not-others-65365

2016

Why sad songs say so much to some people but not others

The Independent

The Conversation

Why sad songs say so much to some people but not others

Fair Observer

2016

2016

Sad music brings pleasure and pain

*Independent* 20/9/2016