



Music Engagement Contributes Reduced Psychoneurological Problems and Increased Wellbeing and Happiness

Bando H^{1,2,*}, Yoshioka A² and Nishikiori Y²

¹Tokushima University and Medical Research, Tokushima, Japan

²Integrative Medicine Japan (IMJ), Shikoku Island division, Tokushima, Japan

*Corresponding author: Bando H, Tokushima University /Medical Research, Nakashowa 1-61, Tokushima 770-0943, Japan; Tel: +81-90-3187-2485; E-mail: pianomed@bronze.ocn.ne.jp

Abstract

As psychosomatic medicine, music has been implicated in the contexts of biological, emotional and social influence. For mental health, benefits of music would include reducing several symptoms for various psychological and neurological disorders, such as depression and dementia. Thus, music engagement provides positive associations among QOL, wellbeing, emotional growth, social connection and prosocial behavior. Music has been multi-modal existence. It is related to various fields and systems, including emotional regulation, psychophysiological responses, cognition network, and neuroscience. Researchers study music for neuroplasticity, well-being optimism, intervention approaches, and biological and cognitive path development. Music has various power in itself, leading to human happiness.

Keywords: Psychosomatic medicine; Music engagement; Mental health; Integrative Medicine Japan (IMJ); Generalized anxiety disorder (GAD)

Commentary Article

Authors and collaborators have been involved in psychosomatic medicine, culture, music therapy, and integrative medicine Japan (IMJ) for years [1]. For our mental health, engaging with music has seemed to be beneficial for quality of life (QOL), reduced anxiety or depression. When evaluating strong and weak points, some aspects would be focused to i) interactions with genetic factors, ii) environmental influences, iii) mediation for brain function and iv) treatment efficacy. Music engagement includes active musicmaking and passive listening. They can impact human socio-emotional development for life span [2]. Such music engagement will provide positive associations among QOL, wellbeing, emotional growth, social connection and prosocial behavior [3]. From genetic and environmental points of view, both of general people and patients with some diseases have similar responses to music engagement, where such activity will lead to positive mental health situation [4]. Through active or passive music engagements, human can interact with music in a variety of measures. It is associated with music perception, training and composing abilities. Continuing music involvement will provide beneficial mental

health of one's own adequate level. Furthermore, such music experience will bring positive neurochemical processes which are deeply involved in reward processing mechanism [5]. Various research has been increasing concerning music engagement, wellbeing, and emotional competence. Among them, 46 qualitative investigations showed that music involvement brought smoothing social connection, facilitation of self-development and management of emotions [6]. In contrast, other type of music activity such as music composing or playing an instrument showed no apparent association of well-being. Those who have social music experiences from earlier life show larger response of prosocial behaviors to music.

Regarding internalizing psychopathology, three diseases have been common, which are posttraumatic stress disorder (PTSD), generalized anxiety disorder (GAD) and major depressive disorder (MDD) [7]. For these patients, experimental investigation were conducted, but strong evidence or conclusions were not obtained yet [8]. On the other hand, correlational reports suggested that musicians have higher risk for psychological problems, and they can take advantages of music engagement for help themselves [9]. RCT studies showed that music interventions brought positive

Received date: 28 December 2022; **Accepted date:** 30 December 2022; **Published date:** 31 December 2022

Citation: Bando H, Yoshioka A, Nishikiori Y (2022). Music Engagement Contributes Reduced Psychoneurological Problems and Increased Wellbeing and Happiness. *SunText Rev Arts Social Sci* 3(3): 148.

DOI: <https://doi.org/10.51737/2766-4600.2022.048>

Copyright: © 2022 Bando H, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

effects for anxiety and depression. For PTSD, music interventions provided beneficial effects [10]. Furthermore, RCT showed decreased depressive states in elderly by musical improvisation activity. Comparative study was conducted for musician and control of depression and music activity. Musician shows higher anxiety risk (odds ratio 1.25), depression risk (1.21) and PTSD risk (1.13) [11]. Furthermore, amateur and professional musicians showed higher incidence of burn out symptoms.

For human being, music is one of the most universal measures of communication and expression. It has been utilized for long time in the human lives, in all cultures and ages over the world [12]. Music can be a moderator for emotional intelligence and maintaining and progressing mental health. As one of the cultural components, music is implicated in the contexts of biological, emotional and social influence [13]. In the light of mental health, benefits of music would include reducing several symptoms for various psychological and neurological disorders, such as depression, dementia, and so on [14]. Music has been multi-modal existence. It is related to a variety of fields and systems, including emotional regulation, psychophysiological responses, cognition network, neuroscience. Researchers study music for neuroplasticity, well-being optimism, intervention approaches, biological and cognitive paths of development [15]. Moreover, passive music listening has been common measure in obstetrics practice. Music becomes beneficial existence, where anxiety symptoms during pregnancy, pain control during labor, and postnatal depression are alleviated by adequate use of music [16]. Recent research on music for brain function has been in focus [17]. This field would be developing neuroscience which captures large interest of health professionals, musicians, psychologists and neuroscientific researchers. Music has been a complex culture, function and phenomenon which can employ widely spread neural activity. It is interconnected field of sensory perception, auditory sensation and motor system function during passive or active music activities [18]. Concerning music research, systematic review was performed for psychosocial interventions. The method was PROSPERO, which has been an international database for prospectively registered systematic reviews in the field of health and social care [19]. Using PROSPERO, systematic review was conducted by Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The purpose was to improve music engagement in mental health and treatment. Among them, 26 studies were investigated and music-based interventions were divided into 3 categories [20]. They are cognitive-reflective, social-emotional, and somatosensory groups.

As to music use for emotional self-regulation, correlational research was conducted. In particular, the person with neuroticism tendency seems to take advantage of music for controlling emotional situation. By cognitive reappraisal, positive efficacy of music on emotional regulation and well-being [21]. A recent study

showed the self-reported instruments which can evaluate the way of using music as a strategy for regulating emotion. Especially, middle to elder people use music for controlling the feeling of anxiety and anger. This behavior can contribute to develop one's own well-being and also social well-being [22]. Each subject may feel each emotion leading to different response. Among them, musician may have more risk for each internalizing problem with bilateral directional influences [23]. It seems to be required to consider socioeconomic and demographic elements for these situations. The reason is that arts or music engagement would be often associated with each self-esteem who has developed to the professional education level [24].

For latest report, partnerships among academic researchers and research-oriented organizations or private music industries can contribute the cooperative development and data integrity, leading to of higher quality in this category [25]. Consequently, various investigation from music field to mental health in psychology category will become hopefully more accurate and reliable in the future.

In summary, this article described current topic on music engagement from historical, cultural, biological, musical, psychological and social points of view. Music has a variety of power in itself. We hope further development of utilizing music to human well-being and happiness.

Conflicts of Interest

Author declares there are no conflicts of interest.

Funding

No grants were received concerning this manuscript.

References

1. Bando H. Clinical efficacy of sedative music for sleep disturbance in elderly people. *Int J Complement Alt Med.* 2022; 15: 248-249.
2. Mankel K, Bidelman GM. Inherent auditory skills rather than formal music training shape the neural encoding of speech. *Proc Natl Acad Sci.* 2018; 115: 13129-13134.
3. Lense MD, Beck S, Liu C, Pfeiffer R, Diaz N, Lynch M, et al. Parents, peers, and musical play: Integrated parent-child music class program supports community participation and well-being for families of children with and without Autism Spectrum Disorder. *Front Psychol.* 2020; 11: 11.
4. Gustavson DE, Franz CE, Panizzon MS, Lyons MJ, Kremen WS. Internalizing and externalizing psychopathology in middle age: genetic and environmental architecture and stability of symptoms over 15 to 20 years. *Psychol Med.* 2020; 50: 1530-1538.
5. Ferreri L, Mas-Herrero E, Zatorre RJ, Ripollés P, Gomez-Andres A, Alicart H, et al. Dopamine modulates the reward experiences elicited by music. *Proc Natl Acad Sci U S A.* 2019; 116: 3793-3798.



6. Perkins R, Mason-Bertrand A, Fancourt D, Baxter L, Williamon A. How participatory music engagement supports mental well-being: a meta-ethnography. *Qualitative Health Res.* 2020.
7. Gustavson DE, Franz CE, Panizzon MS, Lyons MJ, Kremen WS. Internalizing and externalizing psychopathology in middle age: genetic and environmental architecture and stability of symptoms over 15 to 20 years. *Psychol Med.* 2020; 50: 1530-1538.
8. Robb SL, Hanson-Abromeit D, May L, Hernandez-Ruiz E, Allison M, Beloat A, et al. Reporting quality of music intervention research in healthcare: a systematic review. *Complement Ther Med.* 2018; 38: 24-41.
9. Miranda D. The emotional bond between neuroticism and music. *Psychomusicology: Music, Mind, and Brain* 2020; 30: 53-63.
10. Schäfer K, Saarikallio S, Eerola T. Music may reduce loneliness and act as social surrogate for a friend: evidence from an experimental listening study. *Music Sci.* 2020; 3: 205920432093570.
11. Niarchou M, Lin G, Lense MD, Gordon RL, Davis LK. The medical signature of musicians: a phenome-wide association study using an electronic health record database. *medRxiv.* 2020; 10: 51.
12. Wang F, Huang X, Zeb S, Liu D, Wang Y. Impact of music education on mental health of higher education students: moderating role of emotional intelligence. *Front Psychol.* 2022; 13: 938090.
13. Savage PE, Loui P, Tarr B, Schachner A, Glowacki L, Mithen S, et al. Music as a coevolved system for social bonding. *Behav. Brain Sci.* 2020; 44: 1469-1825.
14. Gustavson DE, Coleman PL, Iversen JR, Maes HH, Gordon RL, Len MD. Mental health and music engagement: review, framework, and guidelines for future studies. *Transl Psychiatry.* 2021; 11: 1-13.
15. Sala G, Gobet F. Cognitive and academic benefits of music training with children: A multilevel meta-analysis. *Mem Cognit.* 2020; 48: 1429-1441.
16. Sanfilippo KRM, Stewart L, Glover V. How music may support perinatal mental health: an overview. *Arch Womens Ment Health.* 2021; 24: 831-839.
17. Agapaki M, Pinkerton EA, Papatzikis E. Music and neuroscience research for mental health, cognition, and development: Ways forward. *Front Psychol.* 2022; 13: 976883.
18. Bashwiner D, Bacon D. Musical creativity and the motor system. *Curr Opin Behav Sci.* 2019; 27: 146-153.
19. Pieper D, Rombey T. Where to prospectively register a systematic review. *Syst Rev.* 2022; 11: 8.
20. Rodwin AH, Shimizu R, Travis R Jr, James KJ, Banya M, Munson MR. A systematic review of music-based interventions to improve treatment engagement and mental health outcomes for adolescents and young adults. *Child Adolesc Social Work J.* 2022; 16: 1-30.
21. Miranda D. The emotional bond between neuroticism and music. *Psychomusicology: Music, Mind, and Brain.* 2020; 30: 53-63.
22. Groarke JM, Hogan MJ. Development and Psychometric Evaluation of the Adaptive Functions of Music Listening Scale. *Front Psychol.* 2018; 9: 516.
23. Wesseldijk LW, Ullén F, Mosing MA. The effects of playing music on mental health outcomes. *Sci Rep.* 2019; 9: 12606.
24. Mak HW, Fancourt D. Longitudinal associations between ability in arts activities, behavioural difficulties and self-esteem: analyses from the 1970 British Cohort Study. *Sci Rep.* 2019; 9: 14236.
25. Ganley E, Coriat AM, Shenow S, Prosser D. Systemic problems require systemic solutions: the need for coordination and cooperation to improve research quality. *BMC Res.* 2022; 15: 51.