

Innovation in “Mental Capital” through Awareness Music and creation of new liberal arts

Project manager

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R&D Institutes

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Project Overview

In the Metaverse society of 2050, where reality and virtual space will merge, there are concerns about social issues related to the emergence of novel mental health problems due to the lack of direct social communication and real experiences (physical sensations). In this project, we will elucidate the effects of music on the generation of positive emotions, psychological healing, and a sense of self-unity from a neuroscientific perspective.

Focusing on interoceptive predictive control in the brain we will seek to understand the 1) Emergence of Awareness Music including Natural Sound and interoceptive awareness (latent KANSEI) using music and ultra-high frequency sounds, 2) Develop devices to visualize KANSEI and Awareness Music, 3) Use Neurobiofeedback (NBF) to positively modulate KANSEI and develop technology to improve psychological capital such as hope and efficacy, 4) Develop a KANSEI Communication technology to support the promotion of Empathy.

All research and technology developed in this project will be open to the public and its implementation in society will be discussed regarding its ethical, legal and social issues. We will create an academic model of a new liberal arts (comprehensive knowledge) through interdisciplinary research projects that integrates music, brain science, information science, and developmental science.

*KANSEI: Japanese original sensibility based on Japanese culture

*Interoception: neural sensation of information inside the body (visceral senses, immunity, endocrine, etc.)

Milestones for Year 2032

- Provide services of “enhancement of psychological capital” and “emotional communication” that nurture one’s own KANSEI and empathy with others (change childcare, education, and society).
- Create a comprehensive arts and sciences academic program (Music Edutainment) with a focus on understanding the effects of music on the brain and mind, and provide an academic model for the new liberal arts (culture, entertainment and learning).

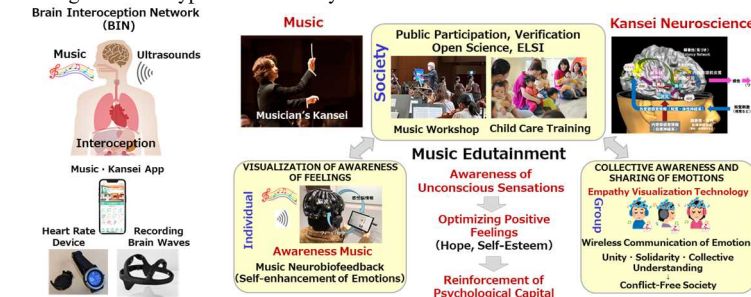
Milestones for Year 2027

- Visualization of KANSEI promotes awareness of one's own unconscious positive KANSEI, enabling basic technology to nurture and enrich KANSEI.
- Develop technologies to help reverse negative emotional states caused by stress (disappointment, loss of self-confidence, etc.) into positive emotional states promoted by the effects of music and sound on awareness, impression, and healing.

Project Topics for R&D

1. Promote innovation by interdisciplinary fusion of music and KANSEI neuroscience (PI: YAMAWAKI Shigeto, Hiroshima University).
2. Participation of individuals with music experience, KANSEI Brain Science Open Science, ELSI, demonstration and verification of findings and social implementation (PI: NISHIMOTO Tomomi, Hiroshima University).
3. Elucidation of the developmental mechanism of interoception in infants by music and its social implementation (PI: MYOWA Masako, Kyoto University).
4. Elucidation of the neural mechanisms that promote interoceptive awareness by music and ultrasounds and the emergence of Awareness Music (PI: HONDA Manabu, NCNP; TAKAHASHI Hirokazu, University of Tokyo).
5. Propose a neurobiologically plausible model of Kansei and develop novel technologies to visualize and modulate (NFB) the mechanisms of brain-interoception representation (PI: SASAOKA Takafumi and MACHIZAWA Maro, Hiroshima University).

<Image shows a hypothetical society of the future>



[Individual] Reinforcement of "psychological capital" based on neuroscientific evidence and visualization technology for realizing and optimizing positive KANSEI (hope, efficacy, resilience, optimism) by music/sound.

[Group] Establishment of Music Edutainment using visualization technology to synchronizing multiple people's KANSEI (sense of unity, mutual understanding) through music/sound and strengthening of group's "psychological capital."

[Society] Realization of a conflict-free society and creation of a new model of Liberal Arts with a focus on Empathy and KANSEI using music/sound awareness and visualization technologies.