The Sound of Feeling: How Key Signatures Influence Emotional Perception

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Music induces emotions, and emotions affect people's behavior and mental health. This project studies how different musical key signatures influence listeners' emotions. A survey was designed and conducted to gather data on emotional responses to various music pieces, followed by an Analysis of Variance (ANOVA) to identify statistical differences across key signatures. There are several main findings from the experimental study. First, certain keys are associated with specific emotions. For example, C major is linked to feelings of simplicity and brightness, while C-sharp minor evokes darkness and pain. Second, there is a correlation between the number of black notes in a key signature and the intensity of negative feelings. In particular, C major (with no black notes) is the most positively perceived among tested major keys, whereas G minor (with two black notes) is the least negatively perceived among tested minor keys. Third, lower pitches generally induce more negativity. These findings provide empirical support for the connection between musical features and emotional responses, enhancing our understanding of music cognition theory and offering guidance on choosing suitable music for target emotions in therapeutic practice.

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