

Understanding Music's Role in Emotion Regulation: An Integrated Music-Person-Context Framework

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Abstract. When people feel sad, overly stressed or have an emotional breakdown, music often becomes a convenient and personally meaningful way to regulate their emotions. A large number of questionnaires, experiments and review studies have shown that music-based emotion regulation is not only very common in daily life, but is also increasingly used in clinical and medical situations. But we still lack a complete framework to explain two key aspects clearly. One aspect is the exact conditions and the specific groups of people for whom music can truly improve mood. The other aspect is the situations where music may fail to work or even make people feel worse than before. Based on recent related empirical results, this paper proposes a Music-Person-Context (MPC) integration framework that focuses on emotion regulation. First, we gather and sort out existing evidence to discuss two things. The first is how musical features and lyrics shape the emotions that people get from music. The second is how these elements create possibilities for emotion regulation. Secondly, we bring together research on differences among individuals. These differences cover personal traits, clinical symptoms and demographic characteristics. We do this to explain why the same piece of music can improve some people's mood, but make others think too much about negative things or even make their bad emotions become stronger. Thirdly, we take different usage scenarios into account. These scenarios include daily music listening and structured intervention activities. We aim to clarify how social and institutional environments further influence the effect of music in regulating emotions. Based on this analysis, we explain how the MPC framework helps people understand the inconsistent results of previous studies. We also make specific predictions for future research and practical applications. In short, this article provides a systematic concept map. This map connects music parameters, the characteristics of listeners and music usage scenarios. By doing so, it offers a more comprehensive answer to a highly practical question: when a person is in a low mood, what kind of music should they listen to "feel better"? It also answers another key question: under what conditions may music bring emotional risks to people instead.

Keywords: emotion regulation, musical features, individual differences, usage scenarios

1. Introduction

When people feel sad, overly stressed or have an emotional breakdown, they have many ways to regulate their emotions; among these, an especially important strategy is to use music to change how they feel to make themselves feel better. Questionnaires and experimental studies have shown that listening to music is one of the most commonly used strategies for daily emotional regulation among teenagers and adults, even more frequently adopted than confiding in others or engaging in physical activities [1,2]. For this reason, in the field of music psychology, "music and emotion" has become one of the most concentrated research topics. Hundreds of empirical studies and numerous reviews have attempted to answer the question of how music changes the emotions, cognition and physiological states of listeners [2-4]. The newest systematic and thorough reviews also show that music emotion regulation is not just a common daily activity. It is also being more and more included in mental and medical help programs. These programs include stress reduction plans, psychotherapy, and pain management [5].

Because music-based emotion regulation does not always work well and may sometimes fail, figuring out why it works in some cases but not in others has turned out to be very important. In this broad research background, scholars have started to find out several key factors that affect the regulation effect of music. According to how people connect with music, the factors about the music itself, the listeners, and the listening situations all have an influence on the regulation effect. The first kind of research centers on musical features. It looks at the inner features of music such as rhythm, tempo, and mode. It also studies the emotional characteristics that the music itself expresses [5-8]. This kind of research also covers studies on song lyrics. It shows that the meaning themes of songs need to match the listeners' goals of regulating emotions [9,10]. The second kind of research centers on factors related to listeners. It tells the difference between musical emotions and listeners' emotions. The former means the emotions that music expresses or that people get from music. The latter means the emotions that listeners feel when they are listening to music [3,11,12]. This kind of research also stresses individual differences. It proves that personality traits, clinical conditions like depression and anxiety, and personal features such as age and gender all affect how people use music and whether they can get benefits from it. After listening to music, some people will feel better. But others will keep thinking too much about negative feelings or even have more negative emotions than before [13,14]. The third kind of research centers on usage scenarios. It finds that music is not only used by people when they regulate their own emotions in daily life. It is also more and more used in organized activities such as school plans, clinical projects, and hospital programs [14-16]. These three kinds of research have provided practical support for putting forward a more complete framework in this research area later on.

However, these several research threads are often discussed in isolation from each other. Reviews of music and emotions mostly focus on the mechanisms that trigger emotions, but rarely analyze how listeners use music when they clearly want to "feel better" [2-4]. Previous research on music emotion regulation focuses on isolated influencing factors; however, when people listen to music, it is a holistic interactive process, and focusing only on a single aspect of the influencing factors is unlikely to achieve good regulatory outcomes and may even lead to completely opposite effects. Furthermore, although many studies have conceptually distinguished the perceived musical emotions from those actually felt by the listeners, there is still a lack of systematic integration to explain how these two aspects interact with specific musical features and the listener's own traits under the goal of "alleviating sadness". The result is that we do not yet have a comprehensive framework that simultaneously connects music characteristics, individual differences, and usage scenarios to answer that seemingly simple yet highly applicable question: when a person is in a low

mood, what kind of music should they listen to in order to "feel better", and under what conditions music might actually make them worse.

So this paper does not report a new experiment. It tries to build a new view. The view is about musical emotion regulation. It comes from existing studies (Fig. 1). This new view uses a simple plan. The plan brings three things together. They are musical features, listener traits and usage scenes. It puts them into one simple model. So music-based emotion regulation is clear. It is the result of their dynamic interaction. It is not from a single factor alone. This plan includes all three parts clearly. It helps explain one thing well. Why does the same music work differently? It may improve mood for some people. It may not affect others at all. It may even make some people feel worse.

Specifically, this article links three key elements. They are musical features, personal differences and music usage scenes. The article unfolds around three sections. First, it summarizes some key points. It talks about rhythm, musical mood and lyrics. It shows how they affect arousal and emotional value. It also explains the measurement methods. These methods are used at two levels. One is music perception level. The other is listener's real experience level. Second, it sorts out some key rules. It talks about personal differences. These include personality, clinical conditions, age and gender. It shows how they regulate those effects. It also tells the conditions for music use. When can music become a protective resource? When can it become a potential risk? Third, it describes some specific ways. It shows how these mechanisms work. They work in daily listening time. They also work in new clinical and educational uses. By putting these research leads together, this article tries to make one thing clear. It wants to know the right conditions. When can music truly help people? It helps people "feel better" when they are sad. It also wants to know the careful situations. When do we need to use music in an individualized way? We need to be more cautious at that time. For music platforms and service providers, these points give concrete help. The help is for designing recommendation systems. It is also for designing intervention tools. These tools match users' emotional needs well. They are more accurate and responsible.

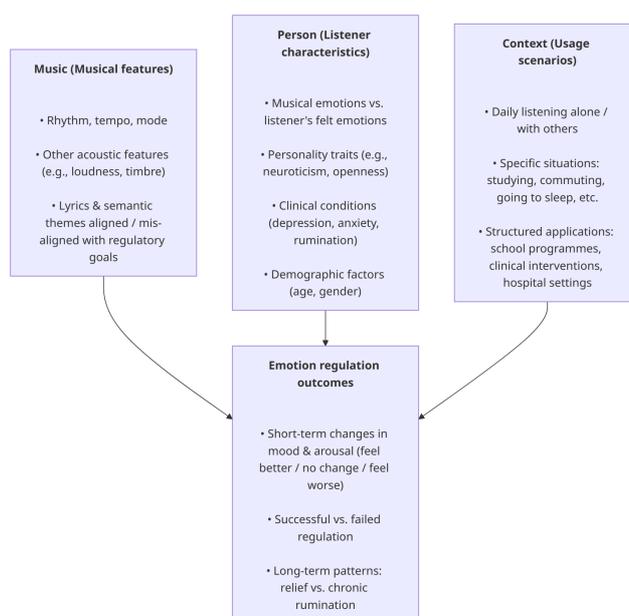


Figure 1. An integrated Music-Person-Context (MPC) framework

2. Musical feature and music emotional regulation

In the domain of musical features, many acoustic and structural properties can shape listeners' emotional responses. Among these, rhythm and tempo, musical mode and overall musical mood, and the semantic content of lyrics have been most consistently highlighted as key factors for the effectiveness of music-based emotion regulation. Therefore, this section focuses on these three features and how they influence the success or failure of using music to regulate emotions.

In the field of music emotion regulation, tempo is usually considered as one of the most fundamental and manipulable musical properties. Tempo refers to the rate of musical beats; [6] recommend isolating intra-musical elements such as tempo to clarify their roles in music-emotion regulation, specifically how they modulate arousal and valence. There are numerous empirical studies have confirmed that tempo strongly influences both arousal and the valence of emotion. For example, by using 56, 106, and 156 bpm, EEG results revealed a V-shaped which is about the relation between arousal and tempo, the lowest at 106 bpm, higher at 56 bpm, and highest at 156 bpm [7]. Furthermore, when the faster background music accompany with the positive emotion of the participant that can enhanced cognitive performance, such as immediate memory and verbal fluency, they perform better [8]. But then, when people are in relaxed and mindful situations, such as keeping steady breathing rhythms, some studies have pointed out a clear fact [5]. Fast rhythm gives less comfort. It is worse than middle or slow speed. It also weakens body rhythm coordination. Tempo is not the only part of music. Music has many other different elements. These elements mix together. They may change people's emotional tendency. They may also affect people's excitement level.

Musical emotion is a kind of feeling. It comes from the music itself. These feelings include excitement, sadness and tenderness. We need to tell it apart from listeners' real feelings. This point is very important. Listeners' real feelings show their true affective state [3]. Scholars give a useful suggestion. It helps keep this difference in studies. We should use different prompts and tools. We use them for the two emotional aspects. For perceived or expressed emotion, many studies use the circumplex model of affect [17]. This model assesses emotional content. It uses two key aspects. They are valence and arousal. This simple plan maps musical excerpts. It puts them in an affective space. For example, agitated music has high arousal. It also has neutral-to-positive valence. Solemn or subdued music has low arousal. It also has neutral-to-negative valence. This positioning helps a lot. First, it aids emotional change analysis. Second, it supports music excerpt comparisons. Third, it allows temporal emotion observations [18,19]. The DEAM dataset offers a standardized basis. It is for these continuous annotations. For felt emotion, researchers recommend GEMS. GEMS is short for Geneva Emotional Music Scale. This scale captures listeners' experiences. It uses music-related emotional ideas. These ideas include "power", "spirituality" and "tenderness" [11]. Besides, people often use the Self-Assessment Manikin (SAM). It has a specific purpose. It assesses valence, arousal and dominance. It uses the listener's subjective perspective [20]. This method separates perceived and felt emotions. It is well noted in the literature [3,12]. More studies should report both aspects. This helps evaluate their alignment or divergence. It also offers deeper points. The points are about music's emotional processing.

Lyrics are the verbal-semantic part of songs. In music-emotion regulation (MER), lyrics are studied on their own. They are separate from melody and harmony [6]. MER is a specific process. In this process, people use music on purpose. They want to manage their emotional states. They may do this to ease distress. They may also do this to improve mood. They may even do this to reach specific affective goals. MER provides a clear framework. This framework examines musical components. These components include lyrics, tempo and mode. It shows how they help with

psychological outcomes. It also shows how they improve well-being. Cross-national evidence tells us one thing. Listeners pick "coping songs" for a reason. The song's lyric themes match their regulation goals. These goals are seeking consolation, meaning-making or empowerment. A higher lyric-goal fit brings bigger well-being improvements [9]. These improvements come from several processes. First, goal-congruent lyrics label feelings. They also reframe feelings through appraisal or reappraisal. They supply narrative meaning to reduce distress. Moreover, specific lyrics provide social support cues. They also provide self-efficacy cues. These cues move affect toward the intended direction [15,16,10]. In other words, lyric content matches listener's goals. Then regulation becomes more efficient and stable. There is less appraisal conflict in this case. There is also greater processing fluency. It also gives clearer action tendencies. These tendencies include "let go" and "keep going". They help sustain change even after the song ends [9]. At the same time, because lyric processing recruits verbal resources, music with lyrics can compete for attention and impair performance in language-heavy contexts, so benefits are context-dependent and may weaken—or even reverse—when goals and lyrical messages mismatch or when tasks demand substantial verbal processing [21] This cognitive impairment may affect the positive effect of the lyrics themselves on emotional relief.

3. Individual differences and music emotional regulation

In terms of individual characteristics, many person-level factors can influence how people choose and respond to music for emotion regulation. Previous studies have particularly highlighted three clusters of variables, like enduring personality traits, clinical conditions related to mood and anxiety, and sociodemographic characteristics such as age and gender, they are as the main determinants of how effective music-based emotion regulation can be. This section so centers on these three factors. It also talks about clearly how they help or get in the way of the regulatory effects of music.

Personal traits and clinical conditions refer to two kinds of features. The first kind is relatively stable characteristics, such as alexithymia, anxiety, and depression. The second kind is diagnosed or screen-positive states, such as ADHD. These features all play a role in shaping emotion regulation. Studies using network analysis show that improper ways of listening to music are linked to thinking too much about negative feelings, anxiety, and depression [13]. This is especially true for listeners who choose sad or strong-tone music when they are in low spirits. In such cases, music may make negative emotions stronger instead of easing them. Agreeing with this idea, a study reported that the ways people listen to music are closely connected to individual differences [14]. These differences include features related to ADHD. On the other hand, some groups can get benefits when music is used in organized intervention programs. For adults with ADHD, their negative feelings became less after listening to Mozart's works. When music was added into psychotherapy, they were more likely to use helpful methods like cognitive reappraisal [22]. Since cognitive reappraisal plays a key role in the emotional changes caused by music, differences in this ability between people may partly explain why music works for some but not so well for others [16].

Besides cognitive and clinical traits, age also affects how people react to music regulation methods based on rhythm. For young adults aged between 17 and 30, quicker tempos usually bring about stronger arousal and some benefits to their performance. A study using EEG technology found a special result. Participants in the 17–30 age group showed a "V-shaped" change in arousal level under different rhythm conditions [7]. Their arousal was the lowest when the rhythm was at 106 bpm. Both faster and slower rhythms could lead to higher levels of activation. This shows one clear result. Medium speed gives neutral emotional balance. It is good for this specific age group. Similarly, college students get good results. This happens under a certain condition. Fast background

music plays. Positive emotions appear at the same time. Their immediate memory gets better. Their language fluency improves too [8]. On the other hand, children react in different ways. Studies look at rhythm training activities. They suggest one useful point. Musical tempo and beat synchronization help kids. They improve emotional engagement. They also boost self-regulation ability [23]. This effect is very obvious. It comes from game-like rhythm imitation activities. Well, elderly people are different. Studies reported one key finding. They cannot get used to fast tempos easily. Irregular rhythms are also hard for them [5,24]. This is true for specific tasks. These tasks need relaxation or body rhythm coordination. For example, meditation or breathing regulation. In short, these findings tell us a key point. We make rhythm-based emotion regulation plans. We need to think about age differences carefully. These differences include arousal patterns. They also cover tempo tolerance and cognitive flexibility.

Another important personal factor is gender. It is included in musical response studies. Gender research shows one clear thing. Men and women have some differences. These differences are in music preferences. They are also in emotional effects. For example, we look at clinical and experimental settings. Female participants listen to chosen music. They have stronger emotional reactions [14]. They pick their favorite songs freely. They report a bigger drop in anxiety. Their pain also reduces a lot. This effect has clear statistical links. It connects to less negative emotions. This gender-related pattern has a reason. It links to different listening goals or methods. Some studies also point out one fact. Music use has gender differences in emotional functions. To be specific, women use music for feelings. They want to express themselves and get comfort. Men, on the other hand, use music differently. They want to stay active. They also need to keep focused [25]. In short, gender factors play a role. They interact with musical environment. They also work with musical characteristics. In this way, they influence emotional benefits. People get these benefits from using music.

4. Usage scenarios and music emotional regulation

Music has been used more and more as a helpful treatment tool in many clinical situations. These situations include mental health care, support for people with chronic illnesses, and perioperative care. In the field of psychological therapy, randomized controlled trials have proved a clear result. Individualized music therapy can greatly ease depressive symptoms and improve the ability of emotional regulation [26]. A Cochrane review further confirms the effectiveness of music-based interventions for depression. It reports that these interventions have medium to large effects on mood improvement and motivation recovery [27]. Apart from mental health care, music has also shown good prospects in supporting physical health. For example, a meta-analysis has pointed out a useful finding. Music interventions help cancer patients. They reduce patients' anxiety and pain. They even improve physical indicators. These include heart rate and blood pressure [28]. Well, listening to music has a good effect. It reduces sudden pain in clinical settings. It also eases long-term pain. This effect is very obvious. It happens when patients pick familiar music. It improves pain-relieving effects. It guides people's attention first. It also adjusts their emotions [29]. In perioperative environments, music brings many benefits. It eases anxiety before surgery. It reduces pain after surgery. It also cuts down opioid drug use. Patients need less of these drugs. This helps them recover more safely [30]. In short, these findings show music's role clearly. Music regulates emotions, thoughts and physical conditions. It has many different functions. These findings also give a reminder. We need context-sensitive strategies. We use them when applying music in care. They work for mental health and medical practice.

5. Discussion

According to the existing research on music, emotions and emotion regulation, this paper puts forward a complete view. This view combines musical features, individual differences, and usage scenarios into a single framework. Compared with previous studies, this complete view has clear advantages. Some previous studies only focused on how often people use music to regulate emotions in daily life [31]. Others only paid attention to specific mechanisms such as emotion induction and assessment [2-4]. This new view enables researchers to analyze how these elements work together in real music listening scenarios.

From this complete perspective, this paper has three main contributions. The first contribution is to sort out in an orderly way how rhythm, tempo, mode and lyrics work together to influence the level of emotional arousal and emotional valence. It also clearly tells the difference between measurement methods for musical perception and those for the audience's subjective experience [3,10,11]. The second contribution is to bring together evidence about individual differences. It stresses that personality traits, clinical conditions such as depression and anxiety, and demographic factors such as age and gender all have an effect on the results of music mood regulation [13,14,25]. The third contribution is to connect daily music listening scenarios with new applications in education, healthcare and psychotherapy. It points out that the emotion regulation mechanisms discussed in basic research have been used in stress reduction programs, psychotherapy and pain management [5,15,26,27,32,33]. These three parts work together. They show one clear fact. A combined framework is useful in three ways. These ways cover basic theory design. They also include clinical interventions and music technologies.

The MPC framework does a good job. It breaks through shortcomings of disordered studies. It provides a shared idea chart. This chart works for different studies. It fits experimental research well. It also suits questionnaire surveys and clinical practice. In this way, we collect key evidence. The evidence is about music-based emotion regulation. We can put it in order more easily. This framework is similar to others. It is like combined review frameworks in social stress research. Those frameworks organize messy findings. They turn them into a single explanation map. They focus on two key points. One is people's working together with the environment. The other is key influence factors. These factors include self-efficacy [34]. Well, the MPC framework does the same thing. It brings together scattered research results. It shows three factors clearly. They are musical features, personal differences and usage scenarios. It tells how they work together. It decides if music-based regulation works or not. First, this combined framework helps explain something. It can make sense of different research results. For example, one study reported a V-shaped link. The link is between musical tempo and arousal responses. Slow tempi lead to strong arousal. Fast tempi also bring strong arousal. Another group of studies found one result. Faster tempo has a good effect generally. It helps with people's thinking ability. This includes memory and language fluency [8,7]. These different conclusions have one key reason. Many studies did not consider other things. They ignored other musical features, personal differences and usage scenarios. The MPC framework, however, stresses one point clearly. It emphasizes their joint influence. Second, this framework works at the theoretical level. It pushes future real studies to do more. Studies on daily music use and clinical interventions need one thing. They should include these three factor types. They need to put them in the same plan and analysis. They should not just look at one single factor [1,5,31]. Third, this framework works at the practical level. It can help make music platforms better. It also guides the making of intervention products. These products include stress-reduction programmes, therapeutic playlists or hospital-based music services. The goal is to better match musical features,

user characteristics and contexts of use. This will help improve the effectiveness and safety of music-based emotion regulation in real-life situations [32,33].

6. Conclusion

In short, this article points out a key idea. To understand the role of music in regulating emotions, it is no longer enough to look at individual factors alone. These factors include music structure, personal traits, and clinical applications. By bringing together evidence from four aspects, this review draws a fairly complete theoretical framework. The four aspects are musical characteristics, musical emotions, audience emotions, individual differences, and usage scenarios. This framework explains two key things clearly. First, it shows the exact conditions in which music helps people manage negative emotions such as sadness and stress. Second, it describes the specific paths through which music plays this positive role. This framework not only integrates a large number of previous findings regarding daily music listening and clinical intervention [3,5,31-33], also emphasized that the same piece of music may simultaneously be protective and risky for different listeners, depending on their current goals, personality traits and circumstances. For researchers, this points to several meaningful directions, such as establishing multi-level models that connect music parameters, emotional responses, and long-term outcomes, conducting cross-cultural and full life-cycle research, and collaborating with digital platforms to design more personalized and ethical recommendation systems. For both practitioners and ordinary listeners, the most important practical lesson is that using music as an emotional regulation tool requires cautious and individualized application - only when the characteristics of the music itself, individual traits, and specific contexts are taken into account simultaneously is music more likely to become a resource that truly helps us "feel a little better".

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