

Regulating functional and hedonic emotions in the pursuit of musical practice goals

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Abstract

Individuals can regulate their emotions in order to feel better and avoid feeling worse. However, individuals can also regulate emotions if doing so is believed to be beneficial to the pursuit of a goal. When pursuing a long-term goal, an individual may choose to delay immediate hedonic emotional reward in order to maximize the functional influence of emotions. This study investigates emotion regulation in the context of musical practice. We examine whether musicians adopt specific emotional stances which support their goal orientation, and which are in line with their beliefs about the functional influence of emotions. Via an online questionnaire, musicians (N = 421) reported their goals, meta-emotion beliefs, and emotion regulation behaviour. Musicians used affect-improvement strategies in their practice more often than affect-worsening strategies. Greater use of affect-worsening strategies was associated with stronger support for the utility of unpleasant emotions. Musicians who more strongly endorsed this belief more strongly pursued mastery goals than enjoyment goals. An examination of specific regulated emotions to support musical practice indicated that musicians generally sought to reduce unpleasant emotions, instead preferring pleasant, energizing emotions. However, a subgroup of mastery-oriented musicians may seek a mixed emotional state, increasing anger and nervousness alongside a range of pleasant emotions. Musicians who pursue mastery may be motivated to experience emotions that combine functional and hedonic benefits. Functional emotions may be less relevant for musicians who practice for enjoyment. Research in this field may equip musicians with novel skills for better pursuit of their practice goals.

KEYWORDS: *musical practice, emotion regulation, meta-emotion beliefs, practice goals*

Introduction

Emotion regulation literature often assumes that individuals regulate their emotions for *hedonic* reasons (i.e., to feel better and avoid feeling worse). However, there is increasing support for an *instrumental* perspective, in which emotions are regulated if they are

beneficial to the pursuit of personally-relevant goals. For example, Tamir et al. (2008) showed that individuals were motivated to experience anger when they anticipated a task for which anger was believed to be useful. In sport contexts, athletes often seek to experience whatever emotions will benefit their performance. Although most athletes seek pleasant and motivating emotions, some believe that performance is benefitted by increasing unpleasant emotions (Lane et al., 2011).

In everyday life, emotions that are pleasant to experience sometimes overlap with emotions that are useful. As a result, individuals may seek to experience emotions that maximise either hedonic rewards, or instrumental rewards, but also possibly both. The question of how individuals wish to feel in a given situation can depend on the goals they pursue. If individuals pursue a long-term goal, they may forego immediate hedonic rewards in order to maximise the instrumental rewards of emotions (Mischel et al., 1989). Regulating in this way may involve prioritizing unpleasant emotions. After all, up-regulated pleasant emotions can be both pleasant and useful, but up-regulated unpleasant emotions can only be useful.

The current study examines musicians' emotion regulation behaviour in musical practice. Although practice has many benefits, it is not always enjoyable, nor does it necessarily yield immediate progress (Ericsson et al., 1993). Musicians persevere through these challenges nonetheless. The extent to which musicians are focused on, for example, developing long-term expert skills, or on short-term enjoyment, depends on their goals. It is plausible to expect that musicians will adopt specific, regulated emotional stances in line with the goals they pursue and their beliefs about the functional influence of emotions.

The following hypotheses are investigated in this study: *H*₁) Musicians will use affect-improvement strategies in their musical practice more often than affect-worsening strategies. *H*₂) Greater use of affect-



worsening strategies will be associated with stronger beliefs supporting the possible benefits of unpleasant emotions. H_3) In contrast to musicians that pursue short-term goals, musicians pursuing long-term goals may seek to experience unpleasant emotions in order to support their musical practice.

Method

Participants, Procedure & Materials

Four hundred and twenty-one participants (female = 254) were recruited from music institutions around the world, including professional orchestras, conservatoires, and music universities. Participants provided informed consent before completing an online questionnaire. Information was collected on the following topics: musical background, practice goals, emotion regulation strategies (two subscales: affect-improvement and affect-worsening), and meta-emotion beliefs (beliefs concerning the functional influence of emotions on musical practice). Participants also indicated how much they would like to increase or decrease different emotions in order to best support their musical practice.

The median age of musicians in this sample was 23 years, and they began playing music at a median age of 7 years. In a ranking of musical styles, participants indicated that they were predominantly engaged in classical music. Participants had a median of 16 years of experience playing music.

Analysis Strategy

The data were analyzed in several steps. First, Principle Component Analysis (PCA) was used to investigate factors underlying musicians' meta-emotion beliefs and practice goals, respectively. Second, MANOVA was used to investigate differences in A) emotion regulation strategies used by musicians with different meta-emotion beliefs and B) differences in the meta-emotion beliefs held by musicians who pursue different goals. Third, musicians were classified into *ad hoc* subgroups on the basis of their meta-emotion beliefs and practice goals. Descriptive statistics and MANOVA were used to examine the specific emotions that musicians in these subgroups sought to regulate in order to best support their musical practice.

Results

PCA of 1) meta-emotion beliefs and 2) practice goals

PCA identified two factors underlying musicians' meta-emotion beliefs. The first factor, “**Emotion-**

Driven Practice” (29.90% variance) refers to a musicians' belief that effective musical practice requires the right emotional state, and that they actively seek to experience whatever emotions (positive and/or negative) help to best support their practice. The second belief factor, “**Non-Hedonic Driven Practice**” (23.08%) refers to the belief that a musician does not necessarily have to feel good in order to practice effectively, and that unpleasant emotions may help to improve musical practice. The two belief factors include an overlap regarding the possible benefits of unpleasant emotions. This overlap was reflected in a weak, positive, statistically significant correlation (Spearman's $\rho = .16$, $p < .01$).

PCA also identified two factors underlying musicians' musical practice goals. The first factor, “**Mastery**” (33.55%) refers to practicing music in order to develop expert musical and instrumental skills. The second factor, “**Enjoyment**” (30.99%) refers to practicing music for enjoyment and recreation. There was a weak, negative, non-significant correlation between the Mastery and Enjoyment factors (Spearman's $\rho = -.05$, $p < .26$), suggesting that these goal pursuits are relatively discrete.

Using a median split, each factor was divided into a high and low category. These categories were used as between-subjects factors for subsequent MANOVA.

Emotion regulation strategies used by musicians holding different meta-emotion beliefs

MANOVA examining the effect of Emotion-Driven Practice (two levels – high/low endorsement) on emotion regulation strategies showed a significant main effect of belief (Wilks $\lambda_{1,420} = 6.67$; $p < .05$; $\eta_p^2 = .03$) with univariate effects for both affect-improvement and affect-worsening strategies. Musicians who strongly endorsed Emotion-Driven Practice showed greater use of affect-worsening strategies, and less use of affect-improvement strategies. MANOVA examining the effect of Non-Hedonic Driven Practice beliefs (two levels - high/low endorsement) on regulation strategies also revealed a significant main effect of belief (Wilks $\lambda_{1,420} = 16.04$; $p < .01$; $\eta_p^2 = .07$) with a univariate effect only for affect-worsening strategies. Musicians who more strongly endorsed Non-Hedonic Driven Practice showed greater use of affect-worsening strategies.

There was no significant interaction between Emotion-Driven Practice and Non-Hedonic Driven Practice for either regulation strategy.

Meta-emotion beliefs of musicians pursuing different musical practice goals

MANOVA examining the effect of Mastery orientation (two levels - high/low pursuit) on meta-emotion beliefs showed a significant main effect of goal orientation (Wilks $\lambda_{1,420} = 45.91$; $p < .01$; $\eta_p^2 = .18$) with univariate effects for Emotion-Driven Practice and Non-Hedonic Driven Practice. Stronger pursuit of Mastery was associated with stronger endorsement of both beliefs. MANOVA examining the effect of Enjoyment orientation (two levels – high/low pursuit) also showed a significant main effect of goal orientation (Wilks $\lambda_{1,420} = 5.57$; $p < .01$; $\eta_p^2 = .02$) with univariate effects for Emotion-Driven Practice and Non-Hedonic Driven Practice. Stronger pursuit of Enjoyment was associated with weaker endorsement of both beliefs.

There was a significant interaction between Mastery and Enjoyment goals, with a univariate effect evident only for Non-Hedonic Driven Practice ($F_{1, 420} = 12.00$; $p = .001$; $\eta_p^2 = .02$). Musicians who strongly pursued Mastery but *not* Enjoyment goals showed the highest endorsement of Non-Hedonic Driven Practice beliefs.

Specific regulated emotions to support practice

Two contrasting subgroups were derived to address whether musicians selected to experience unpleasant emotions in order to support their musical practice.

Subgroup M*NH (Mastery*Non-Hedonic): This subgroup contains those musicians that strongly pursue Mastery only, and who also strongly endorsed Non-Hedonic Driven Practice.

Subgroup E*P (Enjoyment*Positive): This subgroup contains those musicians that strongly pursue Enjoyment only, and who do not endorse Non-Hedonic Driven Practice.

Table 1. Demographic and musical experience characteristics of subgroup musicians

	M*NH	E*P
	Median	Median
	or n	or n
Status (Professional / Student)	57 / 27	11 / 61
Age (years)	28	22
Years of playing (years)	21	15
Cumulative lifetime practice hours (1000hours)*	15.8	5.6

* $p < .01$

The intensity of emotions preferred by both subgroups is shown in Figure 1. Two main points of similarity are

evident: 1) The substantial increase of Concentration, Energy, Calmness, and Happiness, 2) The substantial reduction of Gloom, Downheartedness, Anxiety, and Sluggishness. In general, the E*P group preferred a significantly greater intensity of pleasant emotions, whereas the M*NH preferred a significantly greater reduction of unpleasant emotions.

The two subgroups differed with respect to Anger and Nervousness. MANOVA indicated that the M*NH subgroup sought to increase these emotions to a significantly greater intensity compared to the E*P subgroup, in addition to preferring significantly less reduction of Anger (Wilks $\lambda_{1,420} = 14.42$; $p < .01$; $\eta_p^2 = .50$).

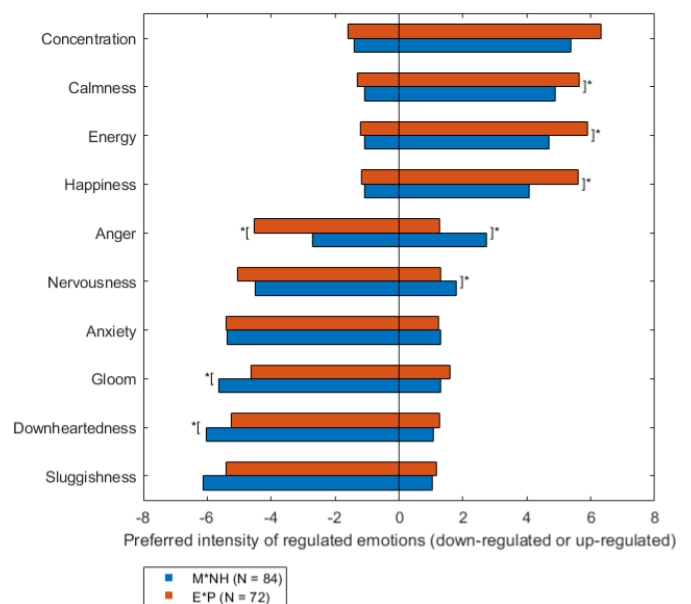


Figure 1: Subgroups' preferred intensity of emotions to support musical practice (mean ratings; * $p < .01$)

Discussion

With respect to the aforementioned hypotheses, the following summary is provided:

Findings support H₁: Musicians used affect-improvement strategies in their musical practice more often than affect-worsening strategies.

Findings support H₂: Greater use of affect-worsening strategies was associated with stronger endorsement of Non-Hedonic Driven Practice.

Findings support H₃: Musicians in the M*NH subgroup sought to experience Anger and Nervousness in order to support their musical practice. These emotions were sought in conjunction with several pleasant emotions.

Emotion regulation strategies & Meta-Emotion Beliefs
Musicians in the current sample used affect-improvement strategies more often than affect-worsening strategies. However, greater use of affect-worsening strategies was associated with stronger endorsement of Non-Hedonic Driven Practice. A component of this belief involves support for the benefit of unpleasant emotions in musical practice. This is consistent with findings reported by Lane et al. (2011) who demonstrated that some athletes reported the belief that increasing anger and/or anxiety would benefit their performance.

Meta-Emotion Beliefs and Goal Orientation

Strong Enjoyment pursuit was associated with weaker endorsement of Non-Hedonic Driven Practice, whereas strong Mastery pursuit was associated with stronger endorsement of this belief. Research shows that Mastery-oriented musicians use more diverse learning strategies in their musical practice (Lehmann & Papoušek, 2003). Associations regarding performance and the functional influence of emotions develop over the course of time and experience (Hanin, 2010). It is therefore possible that Mastery-oriented musicians may also develop more diverse emotion-beliefs during the course of their practice. Support for the functional influence of unpleasant emotions may arise as a consequence of greater exposure to the challenges of mastering musical and instrumental skills.

Regulating specific emotions to support practice

Emotions can impact our cognitive processes and provide the energy to pursue our goals (Mazur & Laguna, 2019). If we assume that musicians have a genuine interest in their own musical practice goals, then it is reasonable to expect that they will seek out the emotional states that will help them achieve these goals. Assigning musicians into subgroups on the basis of their goals and meta-emotion beliefs allowed contrasting orientations toward musical practice to be examined. When asked to report what specific emotions they would seek to experience in order to support their musical practice, points of convergence and contrast were observed:

Avoidance of unpleasant emotions: Both the M*NH and E*P subgroups sought to decrease Gloom, Sluggishness, and Downheartedness. Reducing these emotions may be advantageous as are they associated with an inability to regulate other emotional states which may be more useful (Kaleńska–Rodzaj, 2018). Furthermore, these emotions may prompt passive

behavioural responses that are not conducive to effective musical practice. Musical practice may be better served by emotions that prompt a musician to be proactive.

Prioritizing positive affect: Both subgroups sought to substantially increase Happiness, Energy, and Calmness. While these emotions offer clear hedonic rewards, they may also offer functional benefits. Positive affect can lead to greater cognitive flexibility, and improves performance on tasks requiring creativity and innovative problem solving (Estrada et al., 1994). These benefits are not limited to performance contexts, but also to practice. Altenmüller & Jabusch (2013) emphasise the importance of practicing music with joy, noting faster and more enduring adaptation in the central nervous system if dopamine is released in the limbic system.

Increasing Anger and Nervousness: Some musicians in the M*NH subgroup reported that they would seek to increase anger and nervousness to a moderate degree. This was not observed in the E*P group. Unpleasant emotions are generally viewed as counterproductive to good performance, although there is a mixed body of evidence on this topic (Lane et al., 2012). In certain tasks, unpleasant emotions are seen as more useful than pleasant emotions (Davis et al., 2010). Additionally, if anger and nervousness are experienced in conjunction with pleasant emotions (as preferred by the M*NH subgroup), this may in fact represent an advantage to having a mastery perspective in musical practice.

The mixed mindset of mastery: Compared to the E*P subgroup, M*NH musicians were older, and had greater lifetime involvement in music (see Table 1). With this in mind, it is possible that a mixed emotional state may be a regulatory decision that longer lifetime involvement with music-making has brought to light. A mixed emotional state may support the long-term development of musical skills, given that the majority of musicians in the M*NH subgroup also identified as professional musicians. Mixed emotions are said to increase an individual's focus, and help to give a task greater meaning. In the case of Mastery-oriented musicians, mixed emotional experiences may in fact even be more enjoyable than just positive emotional experiences (Mukherjee et al., 2012).

Limitations & Directions for Development

This study did not include any measure of musical practice outcome. As a result, this study cannot claim

specific outcome advantages associated with any particular regulation behaviours.

Future research could address 1) developing a better understanding of the emotional mindsets that may support specific musical outcomes, and 2) the development of meta-emotion beliefs over a life-time perspective.

Given the challenging reality of musicianship, we argue that the emotional regulation behaviour of musicians should additionally be considered from the health and well-being perspective. Although unpleasant emotions may support the pursuit of Mastery, these emotions may also be accompanied by muscular tension and can possibly lead to playing-related physical disorders and psychological strain. Identifying regulation strategies that can bring functional emotions to optimal levels, might help to minimize the risk of physical and psychological harm.

Conclusion

Musicians generally prefer to use affect-improvement strategies during their musical practice. However, some musicians strongly endorse the functional influence of unpleasant emotions. These musicians may be willing to experience unpleasant emotions as a tool to support the pursuit of expert musical and instrumental skills.

It is hoped that this study, and future research on this topic will provide musicians with novel skills for better pursuit of their practice goals, and maybe help to maximise health and well-being in musical practice.

Endnote

Theory and findings presented here are adapted in an abbreviated format from the full length journal article: Instrumental and Hedonic Motives for Emotion Regulation in Musical Practice. *Frontiers in Psychology* (Breaden Madden & Jabusch, 2021, in revision).

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