

## Musical psychology – an integral experience

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**Abstract:** *The purpose of research in the musician's psychology is to offer new ways of musical understanding in defining interpretation as a phenomenon that calls for an integral experience. Musical interpretation is, in many ways, a complex art. There is a puzzle of musical significance. If we think of paradigms of great instrumental music, such as Beethoven's or Brahms's symphonies, they seem to have no meaning what language would have, but sensitive listeners will be deeply impressed. There is a puzzle of the musical metaphor and a continuous debate about the fact that the elemental properties of music literally belong to the language or can be described metaphorically. The interpretative act is fluid and determines a puzzle about how music can stir up emotions.*

Keywords: *research, music, psychology, anxiety*

### 1. Introduction

Aspects on musical psychology were approached and debated by lots of researchers, traveling through the captivating corners of the philosophy of the mind, the philosophy of science (especially the philosophy of evolutionary biology), the philosophy of language, psychology, anthropology, and many others. He considers internal representations, which is the best sense of the musical experience of a smart interpreter. The interpretative act and the language seem, in Western conceptions, distinct spheres of human activity. Each has different characteristics. Music has no referential accuracy, but has the power to express emotions and personal memories in a concurrent manner. Music is an aesthetic and presentation form, having a participatory character and being an interactive environment, just as language is. Many attributes of language, speech, seem to be musical, being linguistic. The interpretative act is optimized to fulfill certain functions in the human interaction.

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## 2. Interpretative and psychological research

By treating a semantic feature invoked in influencing the psychology of the interpretative act, complexity is considered to be the characteristic that leads to activation, as Nattiez has said. All musical stimuli have the power to bring about this activation, called "arousal", which indirectly provokes pleasure (Nattiez 1990, 240-257). Complexity but also familiarity can lead to these states.

According to Krumhansl's views, he wanted to embrace Berlyne's idea, being in full accord with the aspect of the importance of complexity (Krumhansl 1989, 337-350), in order to subjectively receive a musical work or an interpretative act. He thus traced heterogeneity sensors, but he also treated their dissimilarity, these together being indices of complexity. His experiment combined the clues calculated by analyzing the adjectives chosen by the subjects for the description of the interpretative act, with 16 samples from Claude Debussy and his Piano Preludes being chosen for this test. There was an analogy between language and music.

The findings of the experiment demonstrate that the degree of complexity gave rise to several types of emotional responses in the analyzed subjects: aggression, melancholy, sadness and anxiety. The lower the grade, the subjects reported euphoric, dynamic, and agreeable states. An average dynamism is therefore desired, which will develop a certain "formal integration", where positivism attitudes meet, leading in turn to psychological integration. When the experiment handled the complexity issue, this dynamism was either too low or too high, even reaching a disintegration state and a number of negative features such as melancholy and even depression. There are a number of studies in this regard, such as those initiated by Hintzman, the results demonstrating that the degree of complexity perceived in the artistic message is an invariably transcultural aspect, accompanied by tempo and intensity. It influences the appreciation of emotional expressiveness. Music that has "complex" character is considered to generate sadness and melancholy, and the one of "simple" character is assumed to be generating joy (Krumhansl 1989, 458). When studying the musical aspects that affect the emotions of the interpretative act, parameters such as tempo, height are treated, but much of the importance should be given in their dynamics that convey the message and significance of the musical work. Although few experiments on psychology of the interpretative act deal with the study of dynamics, there is one conclusive one, the one realized by Peacocke (Peacocke 2009, 257-275). For example, it associates the rises and decreases of physiological activity with the elements of crescendo and decrescendo in music. In 2005 (Robinson 2005, 156), researcher Robinson wanted to establish the relationship between tension and musical aspects. The fiery

interpretation is created by the dynamics of crescendos. The "cheerful" music, the accelerated and a series of events internalized in it, has, according to Scherer, a far more powerful impact on the performer. The study of the interpretative act, in all its forms and uses, contributes to understanding the functioning of the artist's brain and their way of communicating through music. Western music has undergone several centuries of profound unification, exchange and development. We are continuously exposed to music, becoming omnipresent. Poetry, narration, painting are essential to understanding what a musician is. The semantics of the interpretative act can be included in many fields, without being limited to the musical act. It is no surprise that semiotics no longer studies music as a self-explanatory structure. The interpretative act could be studied as a closed and self-sufficient system, but it is much more: it is embedded in a wider context of performance, namely literary and linguistic. The semiotic understanding of psychology of the interpretative act, such as a theory of signs and communication, determines us to develop analytical strategies that can cope with this complexity. The complete interpreter will understand a complex object that includes not only music but also cultural memory, experience, interpretative skills and mentality.

### **3. Physical manifestations in musical psychology**

There is a series of research and evidence that reflects the physical manifestations of acute stress in the interpretative act; are lived in a confrontation with a worrying situation. The heart rate will increase and become stronger so the beats will feel (Zentner 2008, 494-521). The individual begins to sweat, but because the skin has not been heated by the activity of the muscles, this sweat will feel cold and the breathing becomes swift and shallow, drying his mouth. If the individual shakes, the physical aspects of interpretation can become difficult (Windsor 2004, 197-222). In addition, the mind may seem empty (a failure of working memory) so that music and all the parameters to be taken into account may be impossible to remember. With regard to chronic stress, additional symptoms may occur. One of these is called somatization, which is manifested by the appearance of physical symptoms that, while real for suffering, have no organic basis. These symptoms may include pain (for example, chest or abdomen), headache or fatigue. Somatization is one of the reasons why a precise diagnosis of musicians' illnesses (arm or hand pain) can be difficult to pronounce, and must be based on a complete history and a fair appreciation of all relevant factors for lifestyle.

### **3.1. Links between disorders and the psychology of music**

Chronic stress can lead to a reduction in immune system efficiency, resulting in increased susceptibility to infections (Gabrielsson 2011, 56). For example, studies on session medical students and other stressful conditions have shown that they have an increased chance of being victims of viral infections such as herpes, glandular fever (mononucleosis), or throat infections. In the long run, stress can induce or aggravate a number of other health problems. Increased demands can affect heart rate and blood vessel construction, and may contribute to hypertension, migraine headaches and heart disease. Stress can also have negative effects on the gastrointestinal system. This can lead to excessive acid accumulation in the stomach, which can cause stomach ulcers and colon diseases (Nyklicek 2003, 304-321).

These may be associated with gastroesophageal reflux, in which stomach acid rises to the esophagus. This causes stomach burns and irritates the mucous membrane of the esophagus, and may have consequences particularly encountered by vocalists. Finally, chronic stress can also trigger general or clinical depression. A series of investigations sought to reveal the physiological consequences of musical anxiety performance (Peretz 1998, 111-141). In one study, the musicians made two recitals, one of which was without the public, and the other with the same repertoire, but this time in front of an audience. The musicians were divided into two groups based on self-assessment of the level of anxiety in interpretation. Interestingly, although heart rate was higher in the group of those with a higher predisposition to anxiety, levels of adrenaline and cortisol do not seem to be significantly different between the two groups of musicians (Zentner 2011, 45). Although many other studies have also reported a link between heart rate and self-confidence, it was found that although cardiac frequency increased during public performance, it was not related to anxiety levels (Juslin 2008, 559-575). Although the male showed higher blood pressure, before and during musical performance, the female genre was the one who reported a higher level of anxiety.

The general trend observed in these studies leads to the conclusion that anxiety in interpretation is not directly related to the physiological manifestations of stress. This underlines the importance of anxiety as a feature, either intrinsic or enhanced by experience. It is known the theory that a degree of stress is necessary to sustain a high level of performance and this is recognized by artists (Huron 2010, 575-604). The decisive factor is therefore how each musician responds to the level of stress. As the musician is inhibited by anxiety in interpretation, this may be in contrast to the emotions that should be reflected in the interpretation. Consciously or unconsciously, self-encouragement rituals are often used by sports teams to eradicate emotions.

#### **4. Researches in the treatment of performance anxiety, as an integral experience**

The general pharmacological treatment of severe chronic stress is based on tranquilizers that reduce anxiety (ansiolitics), hypnotics and antidepressants. They are the most prescribed drugs for these problems and belong to a family of compounds known as benzodiazepines, a known drug being Valium. Although drugs vary somewhat in their properties, they all produce a certain degree of sedation, and this will clearly have a detrimental effect on the ability to produce the complexity of the specific behavior underlying the musical act. Although the results need to be treated with caution, due to the small number of people involved in the study, there appears to be significant improvement in the behavioral cognitive therapy group and drugs. These sedatives are highly dependent and should not be prescribed for long periods of time. These should only be obtained with a prescription and their use should be closely monitored by a doctor.

Research has shown that many performers have tried drugs, known as beta-blockers, that can be used to cope with the physical symptoms of performance-related anxiety. A large-scale survey of the medical problems of musicians in orchestras in the United States reported that up to 27 percent of the subjects had tried the betablockers over time, with the psyche being weak (Huron 2006, 35). They act on tissues that are targets of the sympathetic nervous system. Most have a relatively small effect on the brain. While they reduce the physical symptoms of stress (increased heartbeat and blood pressure, trembling), they have no direct effect on the psychological aspects of stress, such as being unable to sleep or the presence of negative thoughts (Davidson 1998, 307-330).

##### **4.1. The sympathetic nervous system in the psychology of music**

The actions of the sympathetic nervous system during stress are caused partly by the actions of a neurotransmitter called norepinephrine, released by the nerve endings, and partly by the adrenaline (or epinephrine) hormone in the adrenal glands. Noradrenaline and adrenaline are linked to receptor proteins (called adrenoceptors) in the heart and to smooth muscle cells found in the walls of the blood vessels. Beta-blockers act by interfering with the adrenaline-noradrenaline blend in HETA-zulrenoreceptors (Davies 2011, 134-148). They were initially developed for the treatment of angina, where their role is to prevent the heart from becoming overstressed during stress and for controlling high blood pressure, but their

effectiveness in treating stress-related symptoms in individuals has made them be used in very short time by musicians. There are a number of available beta-blockers today. They each have slightly different properties. The prescribed drug will depend on the precise nature of the stress symptoms of an individual (Juslin 2008, 559-575).

For example, not all betablockers are effective against tremors, this being one of the most common problems among performers (Sloboda 2004, 189). Medicines should be dosed and administered with great care. These may be dangerous for those with certain medical conditions such as bronchitis or asthma, low blood pressure and other problems. As for asthma, for example, betablockers will counteract the effect of medication from inhalers, giving rise to a dangerous situation for the patient during an attack. Betablockers are not suitable for performers who need to be physically active, such as dancers, because of their effect on heart rate (such drugs reduce the ability to sustain a high level of muscle activity). An analysis of the effects of beta blocker abuse can be found along with additional information on the drugs already mentioned (Zentner 2011, 36).

## **5. Conclusions**

The psychology of the musical act and the actual musicology are two sides that are continuously intertwined in order to achieve a complete artistic act. The interpretative act will be indirectly linked to certain traits that influence its music and its power to capture attention and give rise to particular, intense strides, these characteristics regarding the complexity, the idea of the new and the symmetrical character.

When it comes to musical psychology and the impact of anxiety and the situation in which it is controlled and maintained at reasonable levels, it can be beneficial. A number of studies have supported its adaptive forms, such as preparing the body for future applications, increasing motivation and improving concentration, especially experienced artists. Therefore, it is necessary to distinguish between maladaptive (or debilitating) forms and adaptation (or facilitation) of musical performance anxiety in literature (Ciurea 1978, 276). I conclude by drawing a strong link between the above-mentioned aspects, emotions, anxiety, but also external factors such as multimedia and socio-cultural conditions. They all contribute to the psyche of the performer, and then find themselves in the personality of the musician and in the quality of the artistic act as an integral experience.

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