

# THE INFLUENCE OF INTENSITY OF MUSICAL INVOLVEMENT AND TYPE OF MUSIC ON MUSICAL EXPERIENCES

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## ABSTRACT

**Background.** According to former observations and questionnaire studies, the capacity for being involved in music is characteristic of a person. There are differences between high and low musical involvers considering music-listening customs, music preferences and meaning of music. Their experiences of music-listening should also be different.

**Aims.** Aims of the present research were to study whether the experiences of music-listening shows differences depending on intensity of musical involvement and type of music.

**Method.** 120 university students (involvement previously measured with a questionnaire) listened to one of three musical pieces (classical, easy-listening or techno music) and reported their experiences in a free report, in an interview, and filled in the Phenomenology of Consciousness Inventory. Reports were content-analyzed and compared considering the intensity of involvement and type of music, likewise the results of PCI.

**Results.** Results show that high involvers have more trance-experiences while memories and relaxation dominate in the experiences of low involvers. Easy-listening music generated the most emotions, classical music the most regression, and those subjects listening to techno music reported mainly about physical and perceptual experiences.

**Conclusions.** Intensity of involvement and type of music has a great effect on musical experiences. The results can assist music therapy considerations and further studies.

## 1. INTRODUCTION AND BACKGROUND

There are situations when the individual is totally involved in an activity. These so-called “hypnotic like”, strong, or peak experiences can often occur in everyday life: either while watching the sunset or listening to a concert, this phenomenon is well known to everyone. In such moments, attention is engaged with that certain activity and nothing else matters. This experience was often the centre of studies concerned with altered states of consciousness and was described similarly by deep absorption, pleasure, attention focused inside, loss of external reality, changes in time-perception and self-awareness.

A number of terms have been coined to refer to the individual differences in the capacity for involvement in these experiences. Csikszentmihalyi called this intense yet effortless full absorption and boundless happiness “flow-experience” (Csikszentmihalyi, 1997). Tellegen and Atkinson named the capacity for total attentional involvement in a variety of sensory and experimental domains “absorption” (Tellegen & Atkinson, 1974). Josephine

Hilgard defined the construct of “imaginative involvement” by identifying the most prominent areas of everyday-life imaginative involvements (Hilgard, 1979). The concept of fantasy-proneness was described by Wilson and Barber and means something like the vividness of daydreaming (Council & Kirsch, 1992). These concepts are closely related to each other, which is not surprising; they address to measure almost the same thing with similar methods (open-ended sentences, questionnaires or interviews).

Music is a special field of involvement. Musical experiences are complex ones, consisting of images, emotions, thoughts, physical responses, trance-experiences etc. Psychologists, aesthetes and researchers of many other disciplines have tried to catch the essence of musical experiences for centuries.

It also seems obvious that involvement in musical experiences occur. Hilgard (1979) found that the area of involvement in sensory experiences are the most hypnotic-like and describes that while listening to a musical piece, a background of feeling and imagination characterizes the individual. Csikszentmihalyi (1997) mentions flow experience in connection with music, if we are not only hearing, but listening to it. Gabriellsson (2001) studied self-reports of strong experiences of music and gives a detailed description of these phenomena.

There are great individual differences in musical experiences. Perhaps the capacity for being involved in music is characteristic of a person. Several studies investigated musical involvement from different aspects in different ways. Litle and Zuckerman found that intensity of musical involvement showed individual differences and was positively related to total sensation seeking (Litle & Zuckerman, 1986). Snodgrass and Lynn (1989) investigated involvement in classical music by absorption and imagery elaboration reported in open-ended essays and examined its connection with hypnotizability. In our previous study (Nagy & Szabo, 2002), we found significant differences between high and low musical involvers considering music preferences, music-listening customs and meaning of music. We assumed that the general capacity for being involved in music (intensity of musical involvement) would influence the experience of music-listening and that there would be differences between high and low involvers. Another variable determining the musical experience is the type or genre of music. Related literature shows data about different musical genres producing different experiences. Let us mention just one example: Stratton and Zalanowski (1984) found that atonal music produced significantly less relaxation. And if we think of the XIX. century’s music when the musicians wanted the listener to see particular pictures and imagery (e. g. Debussy: “La Mer”), it seems possible that a particular music genre should produce similar effects in everyone. However, this question is not so clear. Therefore in our experiments we wanted to control this variable (type of music), too.

Aims of the present study were to examine musical experiences in a laboratory situation with a comprehensive method and to uncover differences and similarities between musical experiences considering intensity of musical involvement and type of music. We expected individual experiences of one group to be similar and different from the other groups.

## 2. METHOD

### 2.1. Participants

The subjects were 120 university students in Debrecen, Hungary with the age of 19-24 years. 20 of them were psychology students, others were from different faculties.

### 2.2. Instruments

**Music.** Musical types are so diverse that we had a hard job to choose the appropriate pieces for the experiment. We had two conceptions about the choice: pieces should be different in style so that they would be likely to produce different experiences and not very well-known to reduce the influence of previous experiences. We used 3 musical pieces (15 minutes each):

- Gustav Holst: Venus, Neptun (classical)
- Kitaro: Moon star, Song for pray (easy-listening)
- A techno-remix from various artists (techno)

**The Musical Involvement Scale (MIS).** A 29-item, Likert style questionnaire (Nagy and Szabo, 2002) was used to measure the intensity of musical involvement.

**The Phenomenology of Consciousness Inventory (PCI).** This inventory was developed by Pekala (1984), and was originally used for studying altered states of consciousness in various fields (e.g. hypnosis or meditation). Scores are measured along various scales.

**The Atlas/ti. software.** We used the Atlas/ti software (Muhr, 1991) for content-analysis of our subjects' self-reports about their musical experience.

### 2.3. Experimental settings

Firstly, the Musical Involvement Scale was administered to 500 university students. Summated scores of MIS followed a normal distribution. We used the extremes as defined by the quartiles: we considered high involvers the upper 25% and low involvers the lower 25%. High and low involvers were asked to take part in the experimental study.

Subjects had to speak about an interesting experience of their life first, for five minutes (control-state), and they filled in one version of the PCI regarding their experiences of this time. Then they listened to one of the three musical pieces (randomly chosen) for 15 minutes, alone, in a darkened room, in a comfortable arm-chair. They explained their experiences to the experimenter in a self-report. (All reports were tape-recorded and then written

down word by word.) Afterwards they filled in another version of the PCI regarding their music-listening. And, finally, subjects were asked some questions about their music-listening in a semi-structured interview.

### 2.4. Procedure

Self-reports were content analysed. Data was subject of further analysis. Differences between reports of high and low involvers were examined by means of Mann-Whitney tests. Reports of listening to the three different types of music were compared by means of Kruskal-Wallis tests.

General Linear Models repeated measures test (MANOVA) was used for complex analysis of data of the PCI. This test is good for investigating interactions between variables. For fine analysis on the nature of differences between high and low involvers and types of music, we conducted several ANOVA tests and independent sample t-tests.

Interviews were content analysed and related to the data of self-reports and PCI.

## 3. RESULTS

### 3.1. Content analysis of self-reports on musical experiences

For building categories of all relevant phenomena mentioned in these reports we used Gabrielsson's (2001) classification with some modifications. Table 1 shows the classification we used in our content analysis.

Categories	Subcategories
Physical reactions	Moving
	Physiological reactions
	Changed Body-experience
Emotions	Positive emotions
	Negative emotions
	Conflicting emotions
Perception	Intense attention
	Low attention
	Tactile perception
	Visual perception
Cognition	Analyzing the music
	Memories
	Actual problems
	Imagery
Trance-like experiences	Meaning
	Changed experiences
	Trance-movements
	Regression
	Flow-experience
	Transcendental/religious experiences
Meaning of existence	

Table 1: Classification of musical experiences

By means of Mann-Whitney and Kruskal-Wallis tests we found significant differences between high and low involvers and between listeners of the 3 types of music regarding the frequencies of experiences in the categories.

**Differences between high and low involvers.** High involvers mentioned experiences in the following categories more frequently than did low involvers:

- Physical reactions ( $p < 0.05$ ) in general
- Changed body-experience ( $p < 0.05$ )
- Trance-like experiences ( $p < 0.05$ ) in general
- Flow-experience ( $p < 0.05$ )

The categories that were mentioned among low involvers significantly more times:

- Negative emotions ( $p < 0.05$ )
- Memories ( $p < 0.05$ )

**Differences between musical types.** We display the categories in which the particular musical pieces had the significantly highest frequencies among the three pieces:

- Classical: Negative emotions ( $p < 0.05$ ), Conflicting emotions ( $p < 0.001$ ), Regression ( $p < 0.05$ )
- Easy-listening: Emotions in general ( $p < 0.05$ ), Positive emotions ( $p < 0.01$ ), Cognition in general ( $p < 0.05$ )
- Techno: Perception in general ( $p < 0.05$ ), Visual perception ( $0.05$ ), Moving ( $p < 0.05$ )

### 3.2. Analysis of data of PCI

With GLM repeated measures method we can see the interactions of our independent variables (intensity of involvement and type of music), too. Results show significant covariance ( $p < 0.01$ ), that means both music and intensity of involvement has an effect on experiences reported in the questionnaire and they are not independent. According to the test, intensity of involvement alone had a significant effect on the scores of the questionnaire scales, too ( $p < 0.005$ ), and so did type of music ( $p < 0.05$ ).

Let's have a look at the nature of differences. There is no place to interpret all of the findings here, therefore we will focus on the most important and most interesting ones. In the control situation there were no differences between high and low involvers nor between listeners of the three musical types in the PCI scores. So we analysed the PCI scores referred to the music-listening situation. We computed some independent samples t-tests to uncover differences between high and low involvers and we found the following significant differences:

- High involvers scored significantly higher on scales Altered experience and all of its subscales ( $p < 0.001$ ), Positive affect ( $p < 0.01$ ), Attention ( $p < 0.01$ ), Imagery ( $p < 0.05$ ) and Altered state of awareness ( $p < 0.001$ ).
- Low involvers scored significantly higher on scales Self-awareness ( $p < 0.001$ ), Arousal ( $p < 0.05$ ) and Control ( $p < 0.001$ ).

No differences were found regarding the scales Negative affect, Rationality and Memory.

Analysis of the differences between the listeners scores within the three musical types (by means of ANOVA tests) brought results that were similar to those of analysis of self-reports: Classical music proved to evoke significantly the most Negative affects, Easy-listening music the most positive affects, and techno music the most Perception.

Then, because of probable effects of the interaction, we considered the two variables (involvement and type of music) together. We computed ANOVA test for the 6 experimental groups (2 involvement groups x 3 musical types), and the following results turned up (we acquaint them very briefly):

All the three high involver groups scored higher than low involvers on all the PCI scales except for Self-awareness, Control and Arousal. (Music had no additional effect on the former results.) For high involvers, easy-listening music was the one that generated the most changes in experiences, for low involvers it was the classical music. Low involvers listening to techno music reported about much less experiences than the two other low involver group, while for high involvers the difference between the three musical groups were minimal.

### 3.3. Analysis of the interviews

The most interesting analytical findings of the interviews were:

- Not one of the 120 subjects had heard the music before
- The subjects who liked the music had stronger experiences
- Low involvers were much more precise to estimate the duration of the music-listening
- High involvers felt more comfortable in the experimental situation

## 4. DISCUSSION

Studying everyday musical experience is quite difficult. Sloboda (2001) claims that retrospective studies and laboratory settings may not capture its diversity and richness, and this is fairly true. Though, for the present study, an experimental setting seemed to be the most appropriate. It may not be the same as everyday music listening, because it is not the person who choose the music for himself/herself and because of the artificial situation. The fact

that they had to monitor themselves while listening to the music could also be disturbing for the subjects. The advantage of the present experiment is that the musical pieces were unknown for the subjects, so the music could not be associated with the memories of the situation when hearing it previously.

Results show that the intensity of general musical involvement and the type of music both have a great influence on musical experiences. The two measurement methods (self-reports and the questionnaire) confirm each other's results. Content analysis proved to be a useful method for analysing musical experiences.

High involvers tend to experience more trance-like experiences and an altered state of awareness when listening to music, while memories dominate in the experiences of low involvers with retained self-awareness.

The comparison of the three musical types showed that classical music generated the most conflicting emotions, easy-listening music effected the most positive emotions and techno-music provoked the most physical and perceptual experiences.

The results should not be generalised more than the results show. It should not be considered that the results are true for classical music, easy-listening music and techno-music in general. These pieces were unique, listening to other pieces of the same style may bring different results. It is just that there are some differences between the experiences of listening to different music, and similarities among experiences of listeners of the same piece.

The results are useful for music therapy. It is often the therapist's personal choice which music he gives to the patient. The knowledge about the person's intensity of involvement and about the general effects of a particular musical piece help the therapist choose the best type of music for the person and predict the probable effects of music-listening. The content analysis method can be used for conceptualising important elements of often incomprehensible self-reports with genuine methods.

Further studies should be done on the influence of degree of liking for the musical piece. More delicate analysis should be done on structural elements of music, too, in connection with particular experiences, to be able to define general effects of certain components.

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