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Students' Musical Preferences: The Role of Music Education, Characteristics of Music and Personality Traits

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Abstract

The aim of this research was to examine the relationship between music education and musical preferences for different tempo and tonality and to explore what personality traits of the Big five-factor model contribute to the explanation of individual differences in musical preferences. The survey included 202 female and male students of the University of Split who were selected on the basis of their music education. Music compact disc containing 16 musical excerpts, Questionnaire for testing musical preference and Questionnaire for personality traits were used. The results confirmed the significant effects of music education and music characteristics on the musical preferences. Participants with the highest degree of music education enjoy all musical examples alike, regardless of musical characteristics, while other participants reported a significantly higher degree of liking the music in major key and fast tempo. Music education was a significant predictor in explaining musical preferences for major key music in fast tempo, while openness to experience was significant in predicting preferences for the minor music in slow tempo.

Key words: *Big five-factor model; music pedagogy; tempo; tonality.*

Introduction

Models of Musical Preferences

Two of the main goals of music education are the cultivation of musical taste and broadening students' musical preferences. Musical preferences are influenced by many different factors, such as characteristics of music, personality traits, the listening

context and music functions, such as cognitive, emotional, cultural or psychological functions.

There are many theoretical models of musical preferences (Abeles & Chung, 1996; Radocy & Boyle, 2003). Some of them are based on assumptions about the connection between musical preferences and optimal stimulus complexity (Walker, 1980), while others associate musical preferences with auditory discrimination abilities, emotions and focusing the attention of listeners (Madsen & Geringer, 2001).

One of the most famous models of musical preferences is based on LeBlanc's interactive theory of musical preferences, according to which musical preferences are influenced by different factors and they interact at different levels of the hierarchical process (LeBlanc, 1981). The model contains eight levels of variables. At the lowest level are the variables of *musical environment* (physical properties of the stimulus, the complexity of the stimulus, the referential meaning of the stimulus, quality of performance) that interact with the *cultural environment* variables (media, peers, family, teachers, incidental conditioning) thus forming the input information for the listener. Whether the listener will really listen to music or not depends on three variables at the next level, namely the physiological readiness to listen, attention or affective state. If these requirements are met, musical input information is filtered by means of listener characteristics (auditory sensitivity, musical ability, musical education, personality, gender, ethnicity, socio-economic status, maturity, memory) and further processed in his or her brain. Information continues its way to the first level, which consists of four variables (rejection, acceptance, repetition of stimulus, heightened attention) and there they are either accepted or rejected.

Another model of musical preferences, called the model of reciprocal responses, was constructed by Hargreaves, Miell and MacDonald (2005). The authors describe a group of responses to music (physiological, cognitive and affective) that interact with characteristics of music (referential systems, musical styles, the complexity of the music, familiarity, performing contexts, etc.), personality traits (age, gender, music education, music experience, etc.), and listening context (social and cultural). Interaction of these factors forms the musical preferences of listeners.

According to the theory of musical preferences by Rentfrow and Gosling (2003), personality traits, cognitive abilities and self-concept are three important factors involved in creating the musical preferences of an individual. Rentfrow and Gosling (2003) have identified four dimensions of musical preferences: a reflective-complex (blues, jazz, classical and folk music), intense-rebellious (rock, alternative, heavy metal music), upbeat-conventional (country, film, religious and pop music) and energetic-rhythmic (rap/hip-hop, soul/funk, electronic/dance music). Their research strongly influenced the theory of musical preferences as well as the relationship between personality traits and musical preferences.

A common feature of all these models of musical preferences is that each of them, to an extent, emphasizes the significance of the characteristics of music, music education and personality traits for the creation of musical preferences of an individual.

Influence of Tempo, Tonality, Personality Traits and Musical Education on Musical Preferences

Results of the research on the connection between musical preferences and tempo generally support the hypothesis that participants, regardless of their age, education, or the style of music of musical examples, favour music in fast tempo (LeBlanc & Cote 1983; LeBlanc & McCrary, 1983; LeBlanc, Coleman, McCrary, Sherrill, & Malin, 1988; Finnas, 1989; Teo, 2003).

In the music-psychological research, the tonality is the musical-expressive element which is, together with the tempo, mainly associated with the perception of emotion in music and the influence of music on the arousal and mood of the listener. The results of these studies confirm that tempo and tonality affect the assessment of emotions in music, and that music in fast tempo and in major key is estimated as happy, whereas the music in the slow tempo and in the minor key is perceived as sad (Balkwill & Thompson, 1999; Laukka, & Gabrielsson, 2000; Juslin & Sloboda, 2001; Husain, Thompson, & Schellenberg, 2002; Gagnon & Peretz, 2003; Dobrota & Reić-Ercegovac, 2012).

A large number of authors investigated the relationship between musical preferences and personality traits (Cattell & Anderson, 1953; Pearson & Dollinger, 2003; Schwartz & Fouts, 2003; Rentfrow & Gosling 2003; 2006; 2007; Reić Ercegovac & Dobrota, 2011; Oshio, 2012). Research results generally confirm that extraversion is associated with preferences of energetic and upbeat music (Pearson & Dollinger, 2003; Rentfrow & Gosling, 2003) and openness to experiences with preferences for more complex art music (Dollinger, 1993; Rentfrow & Gosling, 2003; Reić Ercegovac & Dobrota, 2011).

Research studies also show that musical training and experience have a positive impact on musical preferences (Greer, Dorow, & Hanser, 1973; Gregory, 1994; Moore & Johnson, 2001; Palmquist, 1988). Jin (1999) observed a significant association of musical experience and musical preferences, and Gregory (1994) talks about the positive influence of musical training on musical preferences and expands it within different musical styles. Shehan's (1979) results confirmed that repeated exposure to music increases knowledge and understanding of music, which broadens the musical preferences of listeners.

On a sample of 171 students (non-musicians), Knoon-Poh (1999) investigated the impact of musical characteristics, social environment, music education and knowledge of music on the musical preferences for Western art and traditional Malaysian music. She confirmed the influence of the four variables on musical preferences, with musical training being positively correlated with preferences for Western art music.

Fung (1996) investigated the effect of musical characteristics and knowledge of music on musical preferences for world music on a sample of 180 music students and 269 students of non-musical programmes. The results confirmed the influence of musical characteristics and knowledge of music on musical preferences of all participants. Musicians and non-musicians alike preferred loud, fast, and consonant

music. Musicians showed greater preference for music with complex texture and generally wider musical preferences in relation to non-musicians.

Methodology

Research Aim and Tasks

The main objective of this study was to examine the relationship between music education and musical preferences for different tempo and tonality. Since there are many determinants of musical preferences, and most theoretical models emphasize the role of personal characteristics of individuals, the present study was intended to investigate which personality traits of the Big five-factor model contribute to the explanation of individual differences in musical preferences. In order to achieve this aim of the research we attempted to address the following research tasks:

1. To examine differences in musical preferences for different tempo and tonality with regard to music education
2. To examine the relationship between the degree of liking music of different tempo and tonality, and personality traits of the Big five-factor model
3. To examine the role of gender, music education, and personality traits in explaining individual differences in musical preferences for different tempo and tonality.

Participants

Testing was conducted on a sample of 202 college students of the University of Split (Faculty of Philosophy - Department of Teacher Education, $N = 52$; Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture, $N = 94$; Academy of Arts (Music Art), $N = 54$). These three groups of students were selected on the basis of music education. At the Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture there is no formal musical training, while the students of the Department of Teacher Education have partial music education (Notation, Vocal Practicum, Instrumental Practicum, Vocal-instrumental Practicum, Music Culture, Music Teaching Methodology 1, Music Teaching Methodology 2, Music Teaching Methodology 3). A third group of participants consisted of music students. In addition, from a sample of students of the Department of Teacher Education and the Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture, participants who had some form of formal or informal music education outside the university programme, were excluded from the sample in order to control the influence of music education. With regard to gender, both male and female students ($N_M = 95$, $N_F = 106$) were involved, and the average age of the total sample was 21.8 years.

Instruments

For the purpose of this research, a music CD containing sixteen instrumental music fragments (Table 1), each lasting about one minute, was prepared. The musical

examples differed in tempo and tonality in a way that eight pieces were in slow tempo and minor key, and eight in fast tempo and major key.

The Questionnaire of musical preferences, written for the purpose of this research, consisted of an odd number of musical fragment from the CD and assessment scale with five degrees (1 = strongly dislike; 5 = strongly like).

Table 1.

Musical Excerpts, their Musical Characteristics, and Factor Structure of the Questionnaire of Musical Preferences

Music Examples	Tonality	Tempo	F1	F2
P. I. Tchaikovsky, Sixth symphony, Fourth movement	Minor	Slow	.72	.04
P. I. Tchaikovsky, Sixth symphony, First movement	Minor	Slow	.71	.03
P. I. Tchaikovsky, Fourth symphony, Second movement	Minor	Slow	.71	.07
F. Schubert, Eighth symphony, First movement	Minor	Slow	.68	.05
F. Mendelssohn, Third symphony, First movement	Minor	Slow	.66	.23
F. Schubert, Fourth symphony, First movement	Minor	Slow	.72	.09
A. Dvořák, Ninth symphony, First movement	Minor	Slow	.68	.14
L. van Beethoven, Third symphony, Second movement	Minor	Slow	.73	.02
L. van Beethoven, Seventh symphony, Third movement	Major	Fast	.01	.78
F. Mendelssohn, Fourth symphony, First movement	Major	Fast	.17	.70
L. van Beethoven, Second symphony, Fourth movement	Major	Fast	.03	.86
L. van Beethoven, Second symphony, Third Movement	Major	Fast	.03	.64
L. van Beethoven, First symphony, Third movement	Major	Fast	.03	.77
L. van Beethoven, Fourth symphony, First movement	Major	Fast	.04	.65
L. van Beethoven, Third symphony, Third movement	Major	Fast	.01	.84
L. van Beethoven, Third symphony, First movement	Major	Fast	.30	.45
<i>Explained variance</i>			30%	22%
<i>Cronbach α</i>			.90	.81
<i>M (SD)</i>			24.15 (7.39)	28.02 (5.40)
<i>Mean inter-item correlation</i>			.51	.36

The results of the exploratory factor analysis (Table 1) revealed a two-factor solution, where preferences for the music in slow tempo and minor key significantly loaded the first factor, and preferences for the fast tempo and major key music significantly loaded the second factor. Factor structure, together with the psychometric characteristics of subscales, is shown in Table 1. Following the previous analysis, the total score for each subscale was formed by summing the item scores.

The questionnaire of personality traits IPIP50 (Goldberg, 2001) is intended to study the characteristics of the Big five-factor model of personality. It consists of 50 items, ten for each of the personality dimensions (extraversion, emotional stability, conscientiousness, agreeableness, openness to new experiences/intellect). The task of the participants is to assess how much each item relates to them on the Likert-

type scale with five levels (1 = completely wrong, 5 = completely accurate). Reliability coefficients were Cronbach $\alpha = 0.85$ for extraversion subscale, Cronbach $\alpha = 0.83$ for emotional stability, Cronbach $\alpha = 0.83$ for conscientiousness, Cronbach $\alpha = 0.88$ for the agreeableness and Cronbach $\alpha = 0.70$ for the subscale of openness to experience.

Procedure

Testing was conducted in the period from November to December 2012, in the university classrooms according to pre-arranged schedule. Investigation was done collectively, with 20 participants in each group. The purpose of conducting research was briefly explained, anonymity was guaranteed and the participants were asked to answer the questions honestly and accurately. The participants in all the groups first filled out the personality questionnaire, and then evaluated the musical examples. When examining musical preferences, the participants listened to a musical example in duration of about one minute, and then assessed the degree of liking in the questionnaire. Sequence of musical examples varied from group to group in four different combinations in order to equally distribute the impact of relevant factors - fatigue, habituation, comparison of musical fragments, etc.

Results

In order to investigate the effect of music education on musical preferences, a two-way analysis of variance with repeated measures was conducted. Results of the analysis are shown in Figure 1.

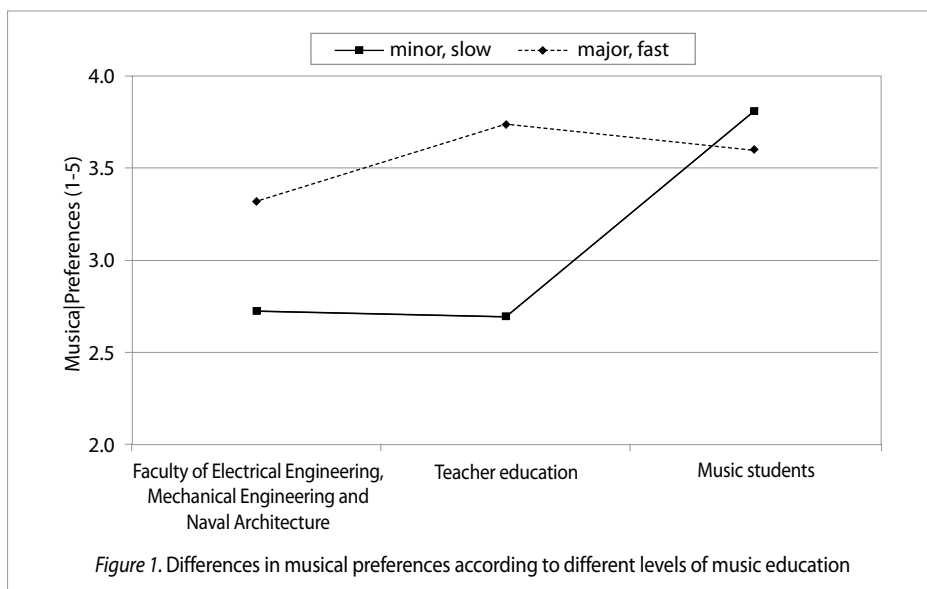


Figure 1 shows that there were significant effects of music education ($F = 26.54$; $p < .01$) and musical characteristics ($F = 44.62$; $p < .01$), but also of their interaction

($F=24.42$; $p < .01$) on the degree of liking the music of different tempo and tonality. Overall, students of music showed the highest level of liking, followed by the students of the Department of Teacher Education, and students of the Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture. The students of Music and the students of the Department of Teacher Education showed significantly greater preference for major key music in fast tempo. The students of Music showed a significantly higher degree of liking for minor key music in slow tempo than students of the other two groups, among whom there was no significant difference.

Table 2.

Matrix of correlation for all variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Gender	1.00								
2. University programme	.67**	1.00							
3. Preferences for minor tonality, slow tempo	.10	.07	1.00						
4. Preferences for major tonality, fast tempo	.22**	.26**	.14*	1.00					
5. Extraversion	.21**	.19**	.00	.16*	1.00				
6. Emotional stability	-.16*	-.01	.05	.11	.32**	1.00			
7. Conscientiousness	.11	.15*	-.08	.20**	.10	.12	1.00		
8. Agreeableness	.39**	.38**	.07	.26**	.34**	.15*	.23**	1.00	
9. Openness to experience	.00	-.11	.30**	.08	.18**	.06	.04	.16*	1.00

* $p < .05$; ** $p < .01$

From the correlation matrix shown in Table 2 it is evident that there is a significant, although low correlation between musical preferences for different tempo and tonality, suggesting the existence of a general tendency of participants toward preferences for art music. Regarding personality traits, there was a significant correlation between preferences for slow music and openness to experience, and preferences for major music and extraversion, conscientiousness, and agreeableness.

In order to investigate specific contributions of gender, music education, and personality traits of the Big five-factor model in explaining individual differences in the preference for different tempo and tonality, two hierarchical regression analyses with musical preferences as criteria were conducted. The results of these analyzes are shown in Table 3. The values of β coefficients for the predictors in the step in which they are introduced into the analysis, and significant β coefficients in the final step of the analysis are shown.

Gender explains 5 % of the preference for major music in the fast tempo variance, and the university programmes an additional 2 %. Introducing personality traits in the third step of the analysis, the percentage of explained variance increased by a substantial 6 % so that finally all the predictors together explained 13 % of the criterion variance. Although personality traits taken together contribute significantly

Table 3.

Results of HRA with musical preferences as the criterion

Step of the analysis	Predictors	Preferences for major tonality and fast tempo β (β)	Preferences for minor tonality and slow tempo β (β)
1. Gender	Gender	.22*	.10
	R	.22	.10
	R ²	.05	.01
	F _(1,199)	10.18	1.99
2. University programme	Univ. programme	.21* (.17*)	.01
	R	.27	.10
	R ²	.07	.01
	ΔR^2	.02	.00
	F _(2,198)	7.76*	.99
3. Personality traits	Extraversion	.03	-.11
	Emotional stability	.07	.10
	Conscientiousness	.13	-.11
	Agreeableness	.11	.04
	Intellect	.07	.32* (.32*)
Final regression equation	R	.36	.35
	R ²	.13	.12
	F _(7,193)	4.05*	3.89*

* $p < .05$; (β) – β coefficient in final step

to explaining the variance in preference for the major music in fast tempo, none of them showed to be significant independent predictors. Concerning the preferences for the slow tempo of the music in a minor key, neither gender nor study programme introduced in the first two steps of the analysis were shown to be significant predictors. Introducing personality traits explained 12 % of the variance, with openness to experience as the only significant independent predictor. It can be concluded that the selected predictors explained a small part of the variance of musical preferences, with music education as a significant predictor for the preference of major key music in fast tempo, and openness to experience for the preference of slow music in minor key.

Discussion

The aim of this study was to investigate the relationship of musical preferences of different tempi and tonalities, musical education and personality traits of the Big five-factor model. We have also defined the following research tasks: to examine differences in musical preferences for different tempo and tonality with regard to music education; to examine the relationship between the degree of liking music of different tempo and tonality and personality traits of the Big five-factor model; to examine the role of gender, music education, and personality traits in explaining individual differences in musical preferences for different tempo and tonality.

With regard to musical training, the students were divided into three groups - students with no musical education (students of the Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture), students of the Department of Teacher Education with partial music education and students of Music. The results indicated that students of Music have the highest degree of liking for musical examples, which is consistent with the results of other authors, according to which musical training and experience have a positive impact on musical preferences in general (Greer, Dorow & Hanser, 1973; Gregory, 1994; Moore & Johnson, 2001; Palmquist, 1988; Yin, 1999). When observing specifically the preferences for different musical characteristics, the results showed no significant differences in preferences for major key music in fast tempo between the students of the Department of Teacher Education and students of Music, while the students of the Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture showed significantly lower liking for these musical examples. When it comes to the slow music in a minor key, the results showed a significantly greater preference of music students in comparison to other groups, among which there were no differences. These results indicate a clear difference in the preference for fast music in major key compared to minor key slow music in participants with partial or no musical education, while musicians expressed liking for both groups of musical examples. This could be explained by the difference between musicians and non-musicians in their relationship to music of different complexity and different emotional charge. Musicians, compared to non-musicians, prefer complex musical texture (Fung, 1996), and such individuals love the music that conveys happy and sad emotions alike (Buchholz et al., 2010). On the other hand, most people prefer simple music and such individuals who prefer simple music also show a clear preference for music that conveys the emotions of happiness (Buchholz et al., 2010). As music in fast tempo and major key is usually described as cheerful, expressing emotions of happiness, and music in a minor key in slow tempo is often described as emotional and is often associated with sadness (Vink, 2001; Peretz et al., 1998), that can explain a significant interaction effect of our participants and the musical characteristics of tempo and tonality on musical preferences. Music students expressed equal preferences for fast tempo music in the major key, and slow tempo music in a minor key (Scheffe test, $p > .05$), while in the groups consisted of the students from the Department of Teacher Education and students of the Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture a significant difference in the preference for two types of music examples was identified. Both groups showed significantly higher degree of liking for the fast tempo music in major key (Scheffe test. $p < .05$) which transfers the emotions of happiness. Furthermore, previous research on the impact of music education on the musical preferences for different musical characteristics showed that, although both musicians and non-musicians are able to experience emotions that are conveyed by music, musicians are more sensitive to tonality in the expression of emotion because they process music characteristics at the cognitive level (Berg & Wingstedt, 2006).

The results of this study showed that there is a significant correlation between extraversion, conscientiousness, agreeableness, and preferences for fast tempo and major key music. A significant correlation between extraversion and preferences for fast tempo and major key musical preferences was indicated in earlier studies, in which the correlation was found between extraversion and energetic, rhythmic and cheerful-conventional musical expressions (Rentfrow & Gosling, 2003). The explanation can be found in the permanent low cortical arousal of the extraverts who therefore prefer music that is characterized by high arousal - as the major mode of music in fast tempo. In addition, the fast tempo and happy music probably best fulfil the function of music for extroverts, which is predominantly focused on the social context and social interaction (Reić Ercegovac & Dobrota, 2011). In previous research agreeableness has shown to be a significant predictor of preference for cheerful-conventional musical style (Dobrota & Reić Ercegovac, 2009; Reić Ercegovac & Dobrota, 2011), which can be attributed to the relationship between the features of musical styles that belong to this group (agreeableness, optimism, positivity, spirituality and cheerful mood), and features of the individuals who achieve high scores on the characteristics of agreeableness. Because music in major mode and fast tempo is largely represented in these musical styles, the obtained significant correlation between the characteristics of agreeableness and preferences for major key music in fast tempo should not be surprising. The trait of conscientiousness was found to be associated with the preferences for conventional and rhythmic-dance music (Reić Ercegovac & Dobrota, 2011), and is largely characterized by a major key and fast tempo.

Hierarchical regression analysis showed the predictive role of the openness to experience in the preference for slow tempo and minor key music which can be explained by the characteristics of individuals who achieve higher scores on that personality dimension. Higher score on this personality trait is associated with aesthetic sensitivity, imagination, curiosity, creativity and awareness of one's own emotions (Costa & McCrae, 1985; McCrae & John, 1992). The results of previous research showed that individuals high on this dimension prefer complex and artistic musical styles (Dollinger, 1993; Rentfrow & Gosling, 2003; Reić Ercegovac & Dobrota, 2011; Langmeyer et al., 2012). Musical exploration of the relationship between musical characteristics and preferences also showed that liking music which evokes the emotion of sadness is more pronounced for the participants who scored higher on openness to experience or intellect (Ladinig & Schellenberg, 2012). Such music that evokes the emotion of sadness is usually very slow tempo music in a minor key that was also used in this investigation. In addition, since individuals high on this dimension are open to new experiences, curious, creative, with a rich imagination, it is possible that they are more open to music that is not preferred by most people who are still inclined to merry music, or music that conveys the emotions of happiness and satisfaction (Hunter et al., 2008; Thompson et al., 2001). Such individuals generally show preference for musical performances outside the mainstream (Dollinger, 1993).

Conclusion

The results of this study confirmed a significant effect of musical education and personality traits on the formation of musical preferences. This confirmed the theory of Hargreaves, Miele and MacDonald (2005) and LeBlanc's interactive theory of musical preferences (1980; 1981) which suggest that the formation of musical preferences of listeners is affected by a number of factors that interact with each other.

LeBlanc (1981) points out that the musical stimuli that the listener accepts they will gladly listen to in the future, which has implications for music education. Knowing the musical preferences of students and the factors that affect their formation certainly contributes to designing curricula that are consistent with the goal of music education - the cultivation of musical taste and broadening of the student's musical preferences.

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Glazbene preferencije studenata: uloga glazbenog obrazovanja, karakteristika glazbe i značajki osobnosti

Sažetak

Cilj istraživanja bio je ispitati odnos između glazbenog obrazovanja i preferencija glazbe različitog tempa i tonaliteta te provjeriti koje osobine ličnosti iz petfaktorskog modela doprinose objašnjenju individualnih razlika u glazbenim preferencijama. U istraživanju je sudjelovalo 202 studentica i studenata Sveučilišta u Splitu koji su odabrani na temelju kriterija glazbenog obrazovanja. Za potrebe istraživanja pripremljen je glazbeni nosač zvuka, Upitnik za ispitivanje glazbenih preferencija i Upitnik za ispitivanje osobina ličnosti.

Rezultati potvrđuju značajne efekte glazbenog obrazovanja i glazbenih osobina na preferencije glazbe različitog tempa i tonaliteta. Sudionici s najvećim stupnjem glazbenog obrazovanja podjednako preferiraju glazbu bez obzira na njezine karakteristike, a ostali sudionici iskazuju značajno veći stupanj preferiranja durske glazbe brzog tempa. Značajnim prediktorima u objašnjenju glazbenih preferencija pokazalo se glazbeno obrazovanje za dursku glazbu brzog tempa, a osobina intelekta za molsku glazbu polaganog tempa.

Ključne riječi: glazbena pedagogija; petfaktorski model; tempo; tonalitet.

Uvod

Modeli glazbenih preferencija

Jedan od osnovnih ciljeva glazbenog obrazovanja je kultiviranje glazbenog ukusa i proširivanje glazbenih preferencija učenika i studenata. Glazbene preferencije pod utjecajem su velikog broja različitih faktora, poput glazbenih osobina, osobina slušatelja, konteksta u kojemu se glazba sluša i funkcija glazbe, kao što su kognitivne, emocionalne, kulturne ili psihološke.

Postoji velik broj teorijskih modela glazbenih preferencija (Abeles i Chung, 1996; Radocy i Boyle, 2003). Neki od njih polaze od pretpostavke o povezanosti glazbenih preferencija i podražaja optimalne složenosti (Walker, 1980), a drugi povezuju glazbene

preferencije sa sposobnostima slušne diskriminacije, emocijama i fokusiranjem pozornosti slušatelja (Madsen i Geringer, 2001).

Jedan od najpoznatijih modela glazbenih preferencija temelji se na LeBlancovoj interaktivnoj teoriji glazbenih preferencija prema kojoj na glazbene preferencije utječu različiti faktori koji stupaju u interakcije na različitim nivoima hijerarhijskog procesa (LeBlanc, 1981). Model sadrži osam nivoa varijabli i na najnižem nivou nalaze se varijable *glazbene okoline* (fizičke osobine podražaja, složenost podražaja, referentno značenje podražaja, kvaliteta izvedbe) koje stupaju u interakciju s varijablama *kulturne okoline* (mediji, vršnjaci, obitelj, učitelji, slučajno uvjetovanje), pa na taj način stvaraju ulaznu informaciju za slušatelja. Hoće li slušatelj uistinu slušati glazbu ili ne, ovisi o varijablama na tri sljedeća nivoa, poput fiziološke spremnosti za slušanje, pozornosti ili afektivnog stanja. Ako su zadovoljeni navedeni preduvjeti, glazbene ulazne informacije filtriraju se uz pomoć karakteristika slušatelja (slušna osjetljivost, glazbena sposobnost, glazbeno obrazovanje, osobnost, spol, etnička pripadnost, socio-ekonomski status, sazrijevanje, pamćenje) i dalje se procesuiraju u njegovu mozgu. Informacije nastavljaju put prema prvom nivou koji se sastoji od četiri varijable (odbacivanje, prihvaćanje, ponavljanje podražaja, intenziviranje pozornosti) pa se tamo prihvaćaju ili se odbacuju.

Još jedan model glazbenih preferencija, pod nazivom model recipročnih odgovora, konstruirali su Hargreaves, Miell i MacDonald (2005). Autori opisuju skupinu odgovora na glazbu (fiziološki, kognitivni i afektivni) koji su u interakciji s osobinama glazbe (referentni sustavi, glazbeni stilovi, složenost glazbe, poznatost, izvođački konteksti i sl.), osobinama slušatelja (dob, spol, glazbeno znanje, glazbeno iskustvo i sl.) i kontekstom slušanja (društveni i kulturni). Interakcijom navedenih faktora formiraju se glazbene preferencije slušatelja.

Prema teoriji glazbenih preferencija Rentfrowa i Goslinga (2003) osobine ličnosti, kognitivne sposobnosti i samopoimanje predstavljaju tri važna faktora koja sudjeluju u formiranju glazbenih preferencija pojedinca (prema Reić Ercegovac i Dobrota, u tisku). Rentfrow i Gosling izdvojili su četiri dimenzije glazbenih preferencija: refleksivno-kompleksnu (blues, jazz, umjetnička i folk glazba), intenzivno-buntovnu (rock, alternativna, heavy metal glazba), optimistično-konvencionalnu (country, filmska, religijska i pop glazba) i energično-ritmičku (rap/hip-hop, soul/funk, elektronička/plesna glazba). Njihova su istraživanja značajno doprinijela spoznajama o povezanosti osobina ličnosti i glazbenih preferencija.

Zajednička osobina svih navedenih modela glazbenih preferencija je da svaki od njih, u manjoj ili većoj mjeri, ističe važnost glazbenih osobina, glazbenog obrazovanja i osobina ličnosti za formiranje glazbenih preferencija pojedinca.

Utjecaj tempa, tonaliteta, osobina ličnosti i glazbenog obrazovanja na glazbene preferencije

Rezultati istraživanja o povezanosti glazbenih preferencija i tempa uglavnom potvrđuju hipotezu da sudionici, bez obzira na dob, obrazovanje ili glazbeni stil

kojemu pripadaju glazbeni ulomci, preferiraju glazbu brzog tempa (LeBlanc i Cote, 1983; LeBlanc i McCrary, 1983; LeBlanc i sur., 1988; Finnas, 1989; Teo, 2003).

Tonalitet je glazbeno-izražajna sastavnica koja se u glazbeno-psihološkim istraživanjima, zajedno s tempom, uglavnom povezuje s percepcijom emocija u glazbi, odnosno s utjecajem glazbe na pobuđenost i raspoloženje slušatelja. Rezultati takvih istraživanja potvrđuju da tempo i tonalitet utječu na procjenu emocija u glazbi i da se glazba brzog tempa u duru procjenjuje kao sretna, a glazba polaganog tempa u molu kao tužna (Balkwill i Thompson, 1999; Laukka i Gabrielsson, 2000; Juslin i Sloboda, 2001; Husain, Thompson i Schellenberg, 2002; Gagnon i Peretz, 2003; Dobrota i Reić-Ercegovac, 2012).

Velik broj autora istraživao je odnos glazbenih preferencija i osobina ličnosti (Cattell i Anderson, 1953; Pearson i Dollinger, 2003; Schwartz i Fouts, 2003; Rentfrow i Gosling 2003; 2006; 2007; Reić Ercegovac i Dobrota, 2011; Oshio, 2012). Rezultati istraživanja uglavnom potvrđuju da se ekstraverzija povezuje s preferencijama energične i ritmične glazbe (Pearson i Dollinger, 2003; Rentfrow i Gosling, 2003), a otvorenost za nova iskustva s preferencijama složenije, umjetničke glazbe (Dollinger, 1993; Rentfrow i Gosling, 2003; Reić Ercegovac i Dobrota, 2011).

Istraživanja također potvrđuju da glazbeno obrazovanje i iskustvo imaju pozitivan utjecaj na glazbene preferencije (Greer, Dorow, i Hanser, 1973; Gregory, 1994; Moore i Johnson, 2001; Palmquist, 1988). Jin (1999) uočava značajnu povezanost glazbenog iskustva i glazbenih preferencija, dok Gregory (1994) govori o pozitivnom utjecaju glazbene poduke na proširivanje glazbenih preferencija i to unutar različitih glazbenih stilova. Rezultati istraživanja Shehan (1979) potvrđuju kako ponovljeno izlaganje glazbi povećava poznavanje i razumijevanje glazbe, što povećava i glazbene preferencije slušatelja.

Poh-Knoon (1999) je, na uzorku od 171 studenta neglazbenog usmjerenja, istražila utjecaj glazbenih osobina, društvene sredine, glazbenog obrazovanja i poznavanja glazbe na glazbene preferencije zapadne umjetničke i tradicionalne malezijske glazbe. Potvrđen je utjecaj sve četiri varijable na glazbene preferencije, pri čemu je glazbena poduka bila u pozitivnoj korelaciji s preferencijama zapadne umjetničke glazbe.

Fung (1996) je istražio utjecaj glazbenih osobina i poznavanja glazbe na glazbene preferencije glazbi svijeta na uzorku od 180 studenata glazbe i 269 studenta neglazbenih programa. Rezultati potvrđuju utjecaj glazbenih osobina i poznavanja glazbe na glazbene preferencije svih sudionika. I glazbenici i neglazbenici preferiraju glasnu, konsonantnu glazbu brzog tempa. Glazbenici pokazuju veće preferencije glazbe složene teksture i generalno veće glazbene preferencije u odnosu na neglazbenike.

Metodologija

Ciljevi i zadatci istraživanja

Glavni cilj ovog istraživanja bio je provjeriti odnos između glazbenog obrazovanja i preferencija glazbe različitog tempa i tonaliteta. Budući da su odrednice glazbenih

preferencija brojne, a da većina teorijskih modela ističe ulogu osobnih značajki pojedinaca, ovim se istraživanjem željelo provjeriti i koje osobine ličnosti iz petfaktorskog modela doprinose objašnjenju individualnih razlika u glazbenim preferencijama. Kako bi se ostvarili navedeni ciljevi istraživanja, definirani su sljedeći istraživački zadatci:

1. Ispitati razlike u preferencijama glazbe različitog tempa i tonaliteta s obzirom na glazbeno obrazovanje
2. Ispitati povezanost stupnja sviđanja glazbe različitog tempa i tonaliteta, kao i osobina ličnosti iz petfaktorskog modela
3. Ispitati ulogu spola, glazbenog obrazovanja i osobina ličnosti iz petfaktorskog modela u objašnjenju individualnih razlika u preferencijama glazbe različitog tempa i tonaliteta.

Sudionici

Ispitivanje je provedeno na uzorku od 202 studenata Sveučilišta u Splitu, i to Filozofskog fakulteta (Učiteljski studij, $N = 52$), Fakulteta elektrotehnike, strojarstva i brodogradnje (FESB) ($N = 94$) i Umjetničke akademije (Glazbena umjetnost) ($N = 54$). Te tri skupine studenata odabrane su na temelju glazbenog obrazovanja. Naime, na Fakultetu elektrotehnike, strojarstva i brodogradnje ne postoji nikakvo formalno glazbeno obrazovanje, dok na Učiteljskom studiju postoje glazbeni kolegiji na prve četiri godine studija (Notno pismo, Vokalni praktikum, Instrumentalni praktikum, Vokalno-instrumentalni praktikum, Glazbena kultura, Metodika nastave glazbene kulture 1, Metodika nastave glazbene kulture 2, Metodika nastave glazbene kulture 3). Treću skupinu sudionika činili su studenti glazbe. Osim navedenog, iz uzorka studenata Učiteljskog studija i Fakulteta elektrotehnike, strojarstva i brodogradnje izostavljeni su oni sudionici koji su imali formalno ili neformalno glazbeno obrazovanje izvan visokoškolskog sustava kako bi se kontrolirao utjecaj ranijeg glazbenog obrazovanja na rezultate. S obzirom na spol sudjelovalo je podjednako studenata i studentica ($N_M = 95$; $N_Z = 106$), a prosječna dob cijelog uzorka bila je 21.8 godina.

Instrumenti

Za potrebe istraživanja pripremljen je *glazbeni nosač zvuka* koji sadrži šesnaest instrumentalnih glazbenih ulomaka (Tablica 1), svaki u trajanju od oko jedne minute. Glazbeni primjeri razlikuju se u tempu i tonalitetu na način da je osam ulomaka u polaganom tempu i molu, a osam u brzom tempu i duru.

Upitnik za ispitivanje glazbenih preferencija konstruiran je za potrebe ovog istraživanja, a sastojao se od rednog broja glazbenog ulomka s nosača zvuka te skale procjene od pet stupnjeva (1 = uopće mi se ne sviđa, 5 = jako mi se sviđa).

Tablica 1.

Eksploratornom faktorskom analizom metodom glavnih komponenata izlučena su dva faktora pri čemu su se na prvom faktoru izdvojile preferencije prema glazbi polaganog tempa u molu, a na drugom faktoru prema glazbi brzog tempa u duru.

Faktorska struktura je zajedno s psihometrijskim značajkama subskala prikazana u Tablici 1. Slijedom provedenih analiza, formirana su dva rezultata kao linearne kombinacije procjena po primjerima koji čine svaku od subskala.

Upitnik za ispitivanje osobina ličnosti IPIP50 (Goldberg, 2001) namijenjen je ispitivanju osobina ličnosti iz petfaktorskog modela. Sastoji se od 50 tvrdnji, po deset za svaku od dimenzija ličnosti (ekstraverzija, emocionalna stabilnost, savjesnost, ugodnost, otvorenost za nova iskustva/intelekt). Zadatak sudionika je da na skali Likertova tipa od 1 do 5 (1 = potpuno netočno, 5 = potpuno točno) procijene koliko se svaka od tvrdnji odnosi na njih. Koeficijenti pouzdanosti iznosili su Cronbach $\alpha=0.85$ za subskalu ekstraverzije, Cronbach $\alpha=0.83$ za emocionalnu stabilnost, Cronbach $\alpha=0.83$ za savjesnost, Cronbach $\alpha=0.88$ za ugodnost te Cronbach $\alpha=0.70$ za subskalu intelekta.

Postupak

Ispitivanje je provedeno u studenom i prosincu 2012. godine, u fakultetskim prostorijama-učionicama prema unaprijed dogovorenom rasporedu. Ispitivanje je bilo skupno, a u jednoj je skupini prosječno bilo 30-tak sudionika. Sudionicima je ukratko objašnjena svrha provođenja istraživanja, zajamčena im je anonimnost te su zamoljeni da iskreno i precizno odgovaraju na pitanja. Sudionici u svim skupinama najprije su popunjavali upitnik osobnosti, a zatim davali procjenu sviđanja glazbenih primjera. Prilikom ispitivanja glazbenih preferencija, sudionici su slušali glazbeni primjer u trajanju od jedne minute, a nakon svakog odslušanog primjera procjenjivali su stupanj sviđanja na priloženom upitniku. Slijed glazbenih primjera varirao je od skupine do skupine u četiri različite kombinacije, kako bi se rasporedio utjecaj faktora poput navikavanja, umora, uspoređivanja primjera i sl.

Rezultati

Kako bi se ispitaio utjecaj glazbenog obrazovanja na glazbene preferencije provedena je dvosmjerna analiza varijance s ponovljenim mjerenjima pri čemu je nezavisna varijabla bila studijski program, a zavisna varijabla preferencije glazbe polaganog tempa u molu i preferencije durske glazbe brzog tempa. Rezultati analize prikazani su na Slici 1.

Slika 1.

Iz Slike 1. je vidljivo da su utvrđeni značajni efekti i glazbenog obrazovanja i glazbenih osobina, ali i njihove interakcije na stupanj sviđanja glazbe različitog tempa i tonaliteta. Ukupno gledajući, najviši stupanj sviđanja iskazali su studenti glazbe, zatim Učiteljskog studija, pa potom studenti FESB-a. Pri tome sudionici Učiteljskog studija i glazbe iskazuju značajno veće preferencije durske glazbe brzog tempa u odnosu na studente FESB-a. S obzirom na polaganu glazbu u molu, značajno veći stupanj sviđanja iskazali su studenti glazbe nego studenti ostalih dviju skupina među kojima nema značajne razlike.

Tablica 2.

Iz matrice korelacija prikazane u Tablici 2. vidljivo je da postoji značajna, iako niska povezanost između preferencija glazbe različitog tempa i tonaliteta, što ukazuje na postojanje opće tendencije sudionika prema preferiranju umjetničke glazbe. Od značajki ličnosti utvrđena je značajna povezanost između preferencija polagane molske glazbe i intelekta, zatim preferencija durske glazbe brzog tempa i osobina ekstraverzije, savjesnosti i ugodnosti.

Kako bi se istražio zasebni doprinos spola, glazbenog obrazovanja i osobina ličnosti iz petfaktorskog modela u objašnjenju individualnih razlika u preferenciji glazbe različitog tempa i tonaliteta, provedene su dvije hijerarhijske regresijske analize s glazbenim preferencijama kao kriterijima. Rezultati tih analiza prikazani su u Tablici 3. Prikazane su vrijednosti β koeficijenata za prediktore u koraku u kojem su uvedeni u analizu i značajni β koeficijenti u zadnjem koraku analize.

Tablica 3.

Spol objašnjava 5% preferencija durske glazbe brzog tempa, a program studija dodatnih 2%. Uvođenjem osobina ličnosti u trećem koraku analize postotak objašnjene varijance povećao se za značajnih 6 %, tako da u konačnici svi prediktori zajedno objašnjavaju 13% varijance. Iako osobine ličnosti uzete zajedno značajno doprinose objašnjenju varijance preferencija durske glazbe brzog tempa, ni jedna se osobina nije izdvojila kao značajan samostalni prediktor. Kada je riječ o preferenciji glazbe polaganog tempa u molu, ni spol ni program studija uvedeni u prva dva koraka analize nisu se pokazali značajnim prediktorima. Uvođenjem osobina ličnosti objašnjeno je značajnih 12 % varijance, pri čemu se kao jedini značajan samostalni prediktor izdvojila osobina intelekta. Zaključno se može reći da odabrani prediktori objašnjavaju mali dio varijance glazbenih preferencija, pri čemu je glazbeno obrazovanje prediktivno za preferenciju durske glazbe brzog tempa, a osobina intelekta za preferenciju polagane molske glazbe.

Rasprava

Cilj ovog istraživanja bio je istražiti odnos glazbenih preferencija glazbe različitog tempa i tonaliteta, glazbenog obrazovanja i osobina ličnosti iz petfaktorskog modela. U skladu s navedenim ciljem definirani su sljedeći istraživački zadatci: Ispitati razlike u preferencijama glazbe različitog tempa i tonaliteta s obzirom na glazbeno obrazovanje; Ispitati povezanost stupnja sviđanja glazbe različitog tempa i tonaliteta s osobinama ličnosti iz petfaktorskog modela; Ispitati ulogu spola, glazbenog obrazovanja i osobina ličnosti iz petfaktorskog modela u objašnjenju individualnih razlika u preferencijama glazbe različitog tempa i tonaliteta.

S obzirom na glazbeno obrazovanje formirane su tri skupine studenata – studenti bez ikakvog glazbenog obrazovanja (studenti FESB-a), studenti Učiteljskog studija s djelomičnim glazbenim obrazovanjem i studenti glazbe. Dobiveni rezultati pokazuju da studenti glazbe općenito iskazuju najveći stupanj sviđanja glazbenih primjera,

što je u skladu s rezultatima drugih autora prema kojima glazbeno obrazovanje i iskustvo imaju pozitivan utjecaj na glazbene preferencije općenito (Greer, Dorow, i Hanser, 1973; Gregory, 1994; Moore i Johnson, 2001; Palmquist, 1988; Jin, 1999). Kada se posebno promotre preferencije glazbe različitih glazbenih osobina, rezultati pokazuju da nema značajne razlike u preferencijama durske glazbe brzog tempa između studenata Učiteljskog studija i glazbe, dok su studenti FESB-a iskazali značajno niži stupanj sviđanja tih glazbenih primjera. Kada je riječ o polaganj glazbi u molu, rezultati su pokazali značajno veće preferencije studenata glazbe u odnosu na ostale skupine, među kojima nije bilo razlike. Rezultati tako ukazuju na jasnu razliku u preferiranju durske brze glazbe u odnosu na molsku polaganu glazbu kod sudionika s djelomičnim odnosno nikakvim glazbenim obrazovanjem, dok su glazbenici iskazali podjednako sviđanje prema objema skupinama glazbenih primjera. To bi se moglo objasniti razlikom između glazbenika i neglazbenika u njihovu odnosu prema glazbi različite složenosti i različite emocionalne obojenosti. Naime, glazbenici u odnosu na neglazbenike preferiraju složenu glazbenu teksturu (Fung, 1996), a takvi pojedinci podjednako vole glazbu koja prenosi sretne i tužne emocije (Buchholz i sur., 2010). S druge strane, većina ljudi preferira jednostavnu glazbu i iskazuje jasne preferencije prema glazbi koja prenosi emocije sreće (Buchholz i sur., 2010). Budući da se glazba u duru brzog tempa najčešće opisuje veselom i povezuje s emocijama sreće, a glazba u molu polaganog tempa se najčešće opisuje kao osjećajna i najčešće vezuje uz emociju tuge (Vink, 2001; Peretz i sur., 1998), upravo time bi se mogao objasniti značajan interakcijski efekt naših skupina sudionika i glazbenih karakteristika tempa i tonaliteta. Studenti glazbe iskazali su podjednake preferencije glazbe brzog tempa u duru i polaganog tempa u molu (Scheffe test, $p > .05$), dok je u skupinama studenata Učiteljskog studija i FEBS-a utvrđena značajna razlika u preferenciji dviju vrsta glazbenih primjera, pri čemu je u obje skupine stupanj sviđanja značajno veći za dursku glazbu brzog tempa (Scheffe test. $p < .05$) za koju je tipično da prenosi emocije sreće. Nadalje, dosadašnja istraživanja o utjecaju glazbenog obrazovanja na preferencije glazbe različitih glazbenih osobina pokazala su da iako su i glazbenici i neglazbenici sposobni doživljavati emocije koje se prenose glazbom, glazbenici su u odnosu na neglazbenike ipak osjetljiviji na tonalitet u ekspresiji emocija budući da glazbene karakteristike procesuiraju i na kognitivnoj razini (Berg i Wingstedt, 2006).

Rezultati provedenog istraživanja su pokazali da postoji značajna povezanost između ekstraverzije, savjesnosti, ugodnosti i preferencije durske glazbe brzog tempa. Na značajnu povezanost ekstraverzije i preferencija brze durske glazbe ukazala su i prijašnja istraživanja u kojima je utvrđena povezanost između te osobine ličnosti i energično-ritmičnih i veselo-konvencionalnih glazbenih izričaja (Rentfrow i Gosling, 2003). Objašnjenje je moguće pronaći u stalnoj niskoj kortikalnoj pobuđenosti ekstraverata koji stoga preferiraju glazbu koju karakterizira visoka pobudljivost kao što je durska glazba brzog tempa. Osim toga, vesela glazba brzog tempa vjerojatno najbolje ispunjava funkciju glazbe koja je ekstravertima dominantno usmjerena na

društveni kontekst i socijalne interakcije (Reić Ercegovac i Dobrota, 2011). Ugodnost se u prijašnjim istraživanjima pokazala značajnim prediktorom preferencija veselo-konvencionalnoga glazbenog stila (Dobrota i Reić Ercegovac, 2009; Reić Ercegovac i Dobrota, 2011), što je moguće objasniti vezom između karakteristika glazbenih stilova koji pripadaju toj skupini (ugodnost, optimizam, pozitivnost, duhovnost i veselo raspoloženje) i značajki pojedinaca koji postižu visoke rezultate na osobini ugodnosti. Budući da je durska glazba brzog tempa u većoj mjeri zastupljena u navedenim glazbenim stilovima, time je moguće pojasniti dobivenu značajnu povezanost između osobine ugodnosti i preferencija durske glazbe brzog tempa. Slično vrijedi i za osobinu savjesnosti za koju je utvrđeno da je povezana s preferencijama konvencionalne i plesno-ritmične glazbe (Reić Ercegovac i Dobrota, 2011), a nju u većoj mjeri karakteriziraju dur i brži tempo.

Provedene hijerarhijske regresije ukazale su na prediktivnu ulogu intelekta u preferenciji polagane molske glazbe, što je moguće objasniti značajkama pojedinaca koji postižu veće rezultate na toj dimenziji ličnosti. Veći rezultat na toj osobini ličnosti povezan je s estetskom osjetljivošću, imaginacijom, znatiželjom, kreativnosti i osviještenosti vlastitih osjećaja (Costa i McCrae, 1985; McCrae i John, 1992). Rezultati dosadašnjih istraživanja pokazali su da pojedinci visoko na toj dimenziji preferiraju složene, umjetničke glazbene izričaje (Dollinger, 1993; Rentfrow i Gosling, 2003; Reić Ercegovac i Dobrota, 2011; Langmeyer i sur., 2012), a istraživanje odnosa glazbenih osobina i preferencija također je pokazalo da je sviđanje glazbe koja pobuđuje emociju tuge izraženije kod sudionika koji postižu više rezultate na otvorenosti za iskustva ili intelektu (Ladinig i Schellenberg, 2012). Takva glazba koja pobuđuje emociju tuge najčešće je upravo glazba polaganog tempa u molu, koja je korištena i u ovom istraživanju. Uz to, budući da su pojedinci visoko na toj dimenziji otvoreni novim iskustvima, znatiželjni, kreativni, s bogatom imaginacijom, moguće je da su otvoreniji i prema glazbi koju ne preferira većina ljudi koja je ipak sklonija veseloj glazbi, odnosno glazbi koja prenosi emocije sreće i zadovoljstva (Hunter i sur., 2008; Thompson i sur., 2001). Takvi pojedinci općenito iskazuju preferencije prema glazbenim izričajima izvan *mainstreama* (Dollinger, 1993).

Zaključak

Rezultati ovog istraživanja potvrdili su značajan efekt glazbenog obrazovanja i osobina ličnosti na formiranje glazbenih preferencija. Time je potvrđena teorija Hargreavesa, Miella i MacDonalda (2005) i LeBlancova interaktivna teorija glazbenih preferencija (1980) koje govore o tome da na formiranje glazbenih preferencija slušatelja utječe niz faktora koji su u međusobnoj interakciji.

LeBlanc (1981) ističe da će se glazbeni podražaj koji slušatelj prihvaća i u budućnosti rado slušati, što ima implikacije za glazbenu nastavu. Poznavanje glazbenih preferencija učenika i faktora koji utječu na njihovo formiranje zasigurno pridonosi koncipiranju nastavnih programa koji su u skladu s ciljem glazbenog obrazovanja, a to je kultiviranje glazbenog ukusa i proširivanje glazbenih preferencija učenika.