

ABSTRACT

The purpose of this research was to respond to a few basic questions about musical abilities, personality traits of musician and the environment in which the musical development occurs, taking into consideration their potential role in predicting the development of musical competence of music school students in Croatia.

Predicting the direction and level of the development of competence in any field of human activity is a demanding task, and it is particularly difficult - the question is to what extent it is even possible - to predict the development of creativity and future professional success. During a musical competence research, the biggest obstacle to a successful prognosis is the existence of numerous factors that may be associated with the development of that competence and the later musical achievements. But given that the developed musical competence is a requirement for a successful engagement in music, finding and defining prognostic indicators that are associated with its development, and consequentially with high musical achievements, is the task and a challenge to scientists engaged in research of this area.

The development of musical competence of an individual occurs, as mentioned, by means of interaction of many factors, among which musical abilities, personality traits and environmental characteristics, according to present knowledge, offer valid assumptions and are a good starting point for explaining this development. In addition to the starting point, during research and explanation of the development of musical competence, it is important to have the ability to determine the achieved level of that competence most accurately, and with regard to students of music, one of the best available indicators of the current development of the various aspects of their musical competence are the data and estimations provided by the teachers who teach them music (Bentley, 1966; Mirković-Radoš, 1998), especially by musical instrument teachers.

Musical ability is one of the main preconditions for the development of musical competence (Bentley, 1966; Radoš et al., 2003; Winner, 2005; Young, 1971). It is therefore clearly logical to assume that the presence of higher levels of musical ability enables a stronger development of musical competence, because this ability is an important prognostic indicator of musical development.

Results of available relevant research of personality traits of musicians (Kemp, 1979; Mihalj, 2010; Pekić, 2008) relating to music students, as their specific "musical" trait

characteristics distinguish conscientiousness and intellect (or openness). In addition, higher scores on the dimension of conscientiousness and openness proved to be good prognostic indicators of a successful musical development. Findings from the literature therefore suggest the existence of specific personality traits inherent in musicians and support the hypothesis that certain trait characteristics predict the development of musical competence well. This is the reason for the assumption that, in searching for answers to the questions regarding the explanation of the development of musical competence of Croatian music school students, it is also possible to expect findings of specific "musicianship" personality traits and their stronger presence in students with more developed musical skills.

Bearing in mind that musical competence is also developed and shaped by the interaction of the individual and his/her environment: family, school, peers and the entire cultural environment (Freeman, 1974; Gardner, 2010; McPherson, 2009), the study of the prognostic indicators of the development of musical competence in this research is directed to the contribution of the environment to this development because it is quite clear that the environment has a significant role in it.

In this thesis, on a convenience sample of 402 sixth grade students of Croatian primary music schools, the prognostic role of variables of musical ability, personality traits and environment characteristics (independent variables) in predicting the development of musical competence (the dependent variable) has been explored. The observed prognostic variables are complex constructs composed of various components - phenomena that characterize them - so in addition to the total, the individual prognostic role of these components (a kind of sub-variables) has also been researched. In addition to the scientific contribution to studying, defining and explaining these phenomena, the intention of the thesis was also to fill the gap which certainly exists in the scientific literature of this research area in the Croatian context.

Musical abilities are operationalized by the result of students in the Bentley test *Measures of musical abilities* and its four subtests (components); personality traits by the result of students in the Croatian version of the questionnaire of personality traits according to the Big Five model, the *International Personality Item Pool (IPIP) 50 Junior S Questionnaire*, in five of his sub questionnaires (components); environment characteristics by the result of student responses to twelve items (components) of the *Questionnaire of environment characteristics of students*; and musical competence by the result of teacher assessments and responses to eight items (components) of the *Questionnaire of musical competence of students*.

In the processing of collected data and presentation of obtained results standard statistical procedures were used: range and results frequency, mean, standard deviation, percent, Kolmogorov-Smirnov z and correlation coefficient r , as well as t -test for independent samples. In the final part of the statistical analysis regression analysis was used.

In total, by the constructed predictor model of musical abilities, personality traits and environment characteristics, 21% variance of criteria - musical competence of respondents were explained:

- constructed predictor model comprised of all of the components observed in the research of musical ability, personality traits and environment characteristics showed the statistical prognostic significance ($F = 6.377$; $p < 0.001$)
- constructed predictor model in which the same components were observed like three composite predictor groups (blocks) - Musical ability, Personality traits and Environment characteristics - also showed statistical prognostic significance, equal to the previous model
- predictor groups Musical ability and Environment characteristics showed independent prognostic statistical significance, with greater predictive role of the first (explains 15.4% variance of criteria) from the prognostic role of the second group (explains 4.5% variance of criteria)
- although detected personality traits of respondents indicate the existence of some specific personality traits inherent in musicians - a higher level of agreeableness and intellect, and lower level of extraversion (which implies the existence of a higher level of introversion), of conscientiousness and emotional stability (which implies the existence of a higher level of emotional instability), in the predictor group Personality traits an independent prognostic statistical significance was not shown
- of all the observed components of prognostic variables, statistically significant independent contribution to explaining the variance of criteria - from largest to smallest - were showed: Tonal memory (musical ability), Mother's musical experience (environment characteristic), Rhythmic memory (musical ability) and Father's musical experience (environment characteristic).

The overall findings of this study suggest that musical abilities, defined and measured by the Bentley test of musical abilities, are a good prognostic indicator of the development of musical competence. Consequently, the introduction of this test into Croatian school practice is worth considering. During the process of selection of students for music education - especially

secondary - the results achieved in this test can provide important information about students' abilities, which is the reason why they should become an integral part of the overall evaluation at the entrance exam. In addition, the application of the Bentley test in elementary (general) schools would allow the diagnosis of a high level of musical abilities as a potential for the development of musical competence among those students who do not attend music school. Identified students with such high capabilities should then be directed toward musical activities.

The results obtained in this paper have also confirmed the importance of the environment for musical development, showing musically stimulating environment characteristics - particularly parental influence - as valuable predictors of the development of musical competence. It is important to recognize the role of these characteristics as prerequisites of optimal musical development in the music school - equally in expectations of cooperation with parents and the planning of required enrichment of school musical-educational content and activities of identified musically gifted students.

Knowledge about the importance of musical abilities and environment characteristics for the development of musical competence in Croatian educational context, resulting from the presented findings of the study, provide useful suggestions for the consideration of the current musical-educational practice. Since they point at important factors of musical development and encourage their better understanding and prediction, these insights should become an integral part of the body of musical-pedagogical knowledge. Moreover, they are a good starting point for future research, whose important task certainly remains to seek a more efficient, scientifically based prediction model of the development of musical competence.

Key words: Bentley's test, Big-Five, music, musical competence, music school, musical abilities, prediction of musical development, student environment, personality traits.