

EXECUTIVE SUMMARY on Dušan Smiljanić Doctoral Thesis:***NEW TRENDS IN DEVELOPING MANAGERIAL COMPETENCIES FOR
MODERN COMPANIES:******APPLICABILITY OF MUSIC IN IMPROVING BUSINESS EFFICIENCY AND
WORKING ENVIRONMENT*****INTRODUCTION**

Music has been an important segment of our everyday life since the very beginnings of our existence. Human is a musical being; rhythm, sound and harmony, makes an inseparable element of human nature. Management and music are related as arts and skills, mutually intertwining and supplementing. It is creativity which characterizes both music and management, being a basis for dealing with these disciplines. Practical approach to the issue of music applicability is a multi-disciplinary and holistic one, taking into account the complexity of working environment, personality of modern managers and the sole human nature. Unique nature of individuals and organizations should be appreciated with fresh and innovative human resources management program that enables workers to unwind, be more productive and creative. Musical map could thus serve to HR experts to build innovative program in accordance with organization' preferences and individuals' uniqueness. Can artistic education incite creativity? Recent investigations of the connection between music and motivation, music and team work, music and creativity, Mozart Effect, musical therapy, music and emotions, music and learning process, are opening numerous options for practical applicability of music in working environment of our managers and in business coaching. At the same time, the need for an increase in staff performances has imposed a need to explore these segments of musical practice which can support creation and implementation of realistic organizational goals in intercultural environment.

GOALS OF THESIS

The main goal of this doctoral thesis was to examine musical preferences and applicability of music with its positive effects on different aspects of working environment, creating thus, *via* empirical research, a Musical Map of investigated geographical region that could be employed to increase working performance and efficiency. In broader context, *via* hypothetical model based on empirical research, thesis goal is to demonstrate the importance of music in managers' working environment and in business competency training. The set goal has imposed the following research tasks:

- Introduction to social and demographic characteristics of a subject
- Exploring the employee's opinions related to applicability of music on positive working atmosphere for managers
- Exploring the employee's opinions related to applicability of music on the efficiency in accomplishing the working tasks
- Exploring the employee's opinions related to applicability of music on motivation
- Exploring the employee's opinions related to applicability of music on stress reduction
- Exploring the employee's opinions related to applicability of music on learning
- Exploring the employee's opinions related to applicability of music on team work
- Exploring employee's musical preferences at workplace and in general
- Establishing the influence, characteristics and frequencies of independent with respect to dependant variables.

SAMPLE AND METHODS OF RESEARCH

In order to achieve the goals defined, a field research has been planned and implemented: opinions were collected from the subjects, via questionnaire structured of 6 socio-demographic variables (gender, age, educational degree, position in the organization, sector and working experience), and 6 dependant variables (working atmosphere, efficiency in accomplishing the tasks at work, motivation, learning, team work and stress).

The research was conducted in Serbia, on a random sample of 126 managers and employees in Belgrade (capital of SRB), Novi Sad (administrative centre of AP Vojvodina) and Novi Pazar (the biggest city in Sandžak with predominant Bosnian population). Out of 126

participants, 52.07% were male and 47.93% female. 53.60% of participants were born before 1971, while 46.40% of all participants were born after 1971.

The main hypothesis was that *applicative music positively affects creation of proper corporative ambient and improvement of employees' competences*, and was tested via 13 auxiliary hypotheses:

1. Genders and musical preferences in general and at work are independent.
2. There is a NO influence of the age of participants on general musical preferences and musical preferences at workplace.
3. There is NO influence of the living places on general musical preferences and musical preferences at workplace.
4. There is NO influence of the educational degree of participants on their general musical preferences and at workplace.
5. There is NO influence of the business sectors of participants on their general musical preferences and at workplace.
6. There is NO influence of positions of participants in organisations on their general musical preferences and at workplace.
7. There is NO influence of participant's work experiences on general musical preferences and at workplace.
8. Music positively affect working atmosphere.
9. Music positively affects working efficiency.
10. Music positively affects the employee's motivation.
11. Music positively affects learning.
12. Music positively affects teamwork.
13. Music is reducing a work stress.

The questionnaire is composed of three parts. The first one contains standard questions referring to socio-demographic characteristics of participants - independent variables. The second part refers to the participants' (managers') opinion about the applicability of music, while the third comprised of two open questions addressing general music preferences and at work.

Data collected in the conducted survey was processed through appropriate conventional statistical methods and procedures, as to gain insights of working population into their musical preferences, beliefs of efficiency of music in attaining and helping of desired working qualities or preventing and decreasing the unwanted phenomena related to work atmosphere and efficiency. All these data will be used solely to characterize their opinion on applicability of music in the work place in order to create musical map of the region, an important step in the process of implementation of music as working efficiency and creativity raising tool.

Data were analyzed in two levels. The first one was a descriptive with calculated frequencies (*f*) and percentages (%), indicators of absolute and relative frequency, as per data collected in nominal measurement level. These include variables which describe certain social and demographic and professional characteristics, as well as preference of music in general and at workplace. Here, also at the descriptive level, the estimates of central tendency indicators were calculated (*AM* - arithmetic mean) and dispersion (*Range*, *Min*, *Max*, *SD* - standard deviation) for variables which are at almost interval or interval measurement level. Such variables are describing attitudes towards listening to music and its effects, and average results obtained from subjects' answers, calculated from groups of items according to the key statements contained in the questionnaire.

Second level statistical analyses is revealing whether there is a dependence relation between cardinal variables such as gender, position and key statements (auxiliary hypothesis), and if so, whether this dependency is significant (chi square test of independence and one way analysis of variances - ANOVA) and how strong it is (Pearson's contingency coefficient, *C*).

RESULTS

Results of arithmetic means (*AM*) calculated for variables concerned with the claims were totaled per group that corresponds to the designated auxiliary hypothesis, and the obtained sum was divided by the number of participants for these groups. Arithmetic means were calculated, in order to get insight into the intensity of participants' response with affirmative, positive attitude towards music at workplace in accordance with the set auxiliary hypotheses. The higher the *AM* is for a group, the higher the degree of agreement of

participants from that effect of music at workplace. Along with AM, some indicators of results dispersion on these variables were also shown. For example, for the group of claims which are, by assumption, indicative for affirmative attitudes about the significance of music for working atmosphere, $AM=2.542$, is in possible range from 1 to 3, while $SD = 0.437$. Therefore, this is an affirmative attitude that goes above the average positive one (arithmetic mean is 2.0), pointing to the significance of music for the improvement of working atmosphere. Participants were relatively harmonized in such answers, i.e. they thought that music is important for working environment.

Table 1. Assessment of parameters of central tendency and dispersion of average results in variables

DEPENDENT VARIABLES	N	Range	Min	Max	AM	SD
Working atmosphere	126	2	1	3	2.542	.437
Working efficiency	126	2	1	3	2.385	.601
Motivation	125	2	1	3	2.756	.419
Learning	125	2	1	3	2.227	.591
Team Work	125	2	1	3	2.621	.430
Work Stress Reduction	125	2	1	3	2.627	.443

By examining results from Table 1. it can be concluded that results confirm auxiliary hypotheses No.8 till No.13 since all AM are above the arithmetic mean of 2.0.

Although general statistics of total sample on participant's opinion, speaks in favor of confirmed hypotheses expressing positive effects of music on learning process, stress reduction, motivation etc., there are some fine tunings or unique relations in the Musical Map, influenced by cardinal and derived variables, as revealed by one way ANOVA test: influence of gender on opinion of positive music effects on stress reduction, place of living influences opinion on music effects on increasing working efficiency, business sector influences opinion of music effects on learning process and musical preferences at work and in general do influence opinion on positive effects of music on the motivation at work. To be precise this influence is restricted to the intensity of the positive belief in music effects with jazz followers having the lowest strength of belief into positive effects of music on the

motivation at work, which definitely deserves further investigation since jazz is considered as creativity raising tool. We can conclude that nothing can be prefabricated. These are the unique features of Musical Map that reflects working population in Serbia.

Second part of the results section relates to hypotheses that were testing dependency or mutual relationship of variables such as general music preference and at workplace on cardinal variables such as gender, age, education etc. For the sake of simplicity in the Methodology background sector hypotheses addressing the same cardinal variable and their relationship with music preferences have been fused and expressed into one statement. However, when it came to empirical testing they have been separately investigated and their auxiliary statement was expressed as null and alternative hypothesis, where former was expressed in negative form, based on the rule of assuming equal chi distributions.

Null H: *“Gender and general musical preferences are independent.”*

Alt H: *“Gender and general musical preferences are NOT independent.”*

As a result of testing, out of 14 null hypotheses in this section, only two could be rejected and these are ones related to the influence of educational degree or general musical preference and at workplace. That means that out of first 7 listed auxiliary hypotheses in SAMPLE and METHODS related to the influence of cardinal variables such as gender, position, age, education, place of living etc, on general musical preference and at workplace, only, null hypothesis regarding education was rejected and alternative form accepted. Next paragraphs depicts this statistical process that was repeated 14 times for each of aforementioned 7 auxiliary hypotheses

Whether there is significant, dependent relationship between participant’ educational degree (STOB) and general musical preference (MUPR) we have also tested via obtained answers from open question no 19, divided into five groups of music: folk, pop, rock/jazz, classical and instrumental/ambient music. Hypotheses were set as follows:

Null H: *“There is NO influence of the participant’s educational degree on general musical preferences.” (Variables are independent)*

Alt H: *“There is an influence of the participant’s educational degree on general musical preferences.” (Variables are dependent)*

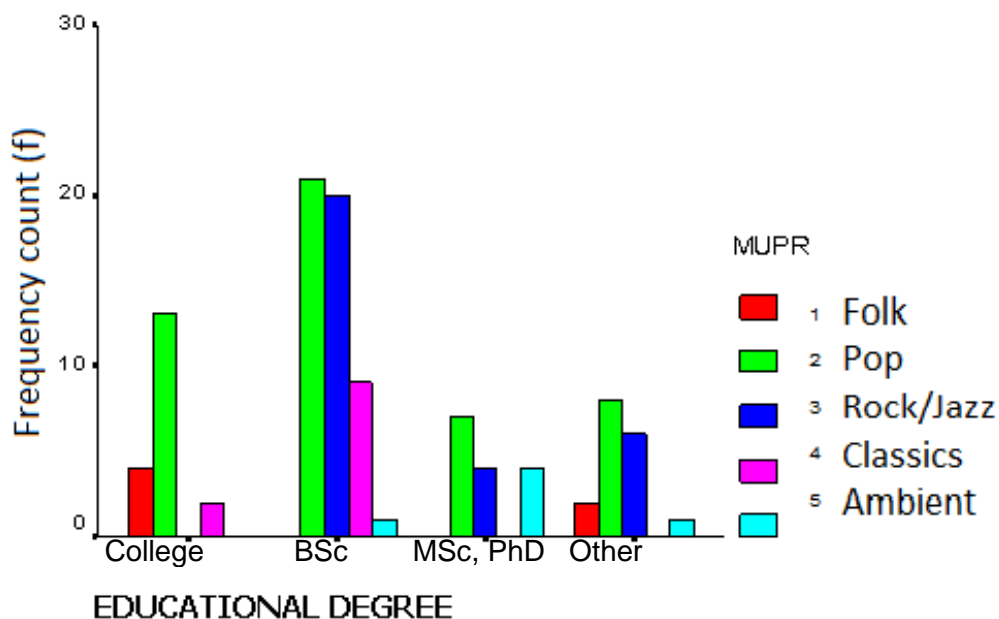


Figure 1. Distribution of MUPR frequency count as per educational degree

Table 1. Comparative overview of contingency table

			MUPR					Total
			1	2	3	4	5	
STO B	College	f	4	13		2		19
		STOB	21.05%	68.42%		10.53%		100.00%
		MUPR	66.67%	26.53%		18.18%		18.63%
		Total	3.92%	12.75%		1.96%		18.63%
	BSc	f		21	20	9	1	51
		STOB		41.18%	39.22%	17.65%	1.96%	100.00%
		MUPR		42.86%	66.67%	81.82%	16.67%	50.00%
		Total		20.59%	19.61%	8.82%	.98%	50.00%
	MSc, PhD	f		7	4		4	15
		STOB		46.67%	26.67%		26.67%	100.00%

		MUPR		14.29%	13.33%		66.67%	14.71%
		Total		6.86%	3.92%		3.92%	14.71%
	Other	f	2	8	6		1	17
		STOB	11.76%	47.06%	35.29%		5.88%	100.00%
		MUPR	33.33%	16.33%	20.00%		16.67%	16.67%
		Total	1.96%	7.84%	5.88%		.98%	16.67%
	Total	f	6	49	30	11	6	102
		STOB	5.88%	48.04%	29.41%	10.78%	5.88%	100.00%
		MUPR	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		Total	5.88%	48.04%	29.41%	10.78%	5.88%	100.00%

Table 2. Chi square statistical parameters

C	χ^2_{exp}	χ^2_{theor}	df	p
0.536	41.108	21.026	12	0.000

Since $\chi^2_{\text{exp}} > \chi^2_{\text{theor}}$, and $p < \alpha$ it can be deemed with probability of 95% that there is statistically significant dependency between the participants' educational degree and general musical preference. Hence, we reject null hypothesis and accept alternative one. That means that the degree of education influences general musical preference and at workplace variables.

Upon the statistical processing of data, we can conclude that most of the auxiliary hypotheses have been confirmed in their null form, except hypothesis No 4.

DISCUSSION

One of the main empirical outcomes of the PhD thesis research is the determination of Serbian working population. Musical Map that should enable increasing of efficiency and creativity in everyday work process via the concept of active listening. Next to this are the results of influence of certain socio-demographic and professional factors on the Musical Map. These information's are essential in building further strategy of music coaching aimed at improving HR competencies; HR staff would subsequently implement the "concept of Musical Map Method" within its own company that is expected to increase motivation, learning and creativity as shown empirically in the study conducted. Also team work and working efficiency are expected to increase and stress at work to decrease under the proper musical exposition and all of these are explicitly shown in the thesis research results. In addition, influence of the degree of education on musical preference at work place and in general are the most surprising data, as revealed by chi square test of independence; that could perhaps be consequence of unique qualities of nation under the study.

Owing to the fact that the construction itself is two-folded whilst encompassing the application of music in the work environment and within business coaching on the basis of empirical research, academic settings and empirical part as a professional musician, the music map is to represent holistically the manner in which any manager may learn how to actively listen in compliance with their inner map.

As it has been previously emphasized several times, music affects us in psychological terms via its various elements; hence the application of music must carefully encompass contemplation about musical elements we wish to utilize (harmony, rhythm, timbre etc.).

In the education segment related to management, Musical Map provides framework wide enough, for the improvement of future managers' competences, as well as HR professionals, at the same time providing the researchers with a possibility to study applicability and syncretism of music and other arts. It has its applicability *inter alia* in the segment of inhibition reduction through various rhythmic patterns. Here, the concept itself can be extended with musical improvisation.

The Musical Map is considered from two different aspects: the aspect of a professional musician and of a management professional, whereas its implementation is regarded within a rather comprehensive continuum where art and management are the same - skills.

It would be somewhat pretentious to analyze and create the Musical Map in another region, hence the concept of the music map encompasses analyzing and implementation in the cultural concept of the Balkans, in which the author himself is part of. The aforementioned does not disregard the importance and value of the heritage of great composers emerged throughout history of music, but on the contrary, it intends to present the peculiarity of the manager originating from west Balkans in a holistic sense.

The most important that this does not limit determination and creation of any other geographical map as long as this Musical Map Method is used, since it excludes prefabrication.

CONCLUSION

The final result of the thesis is the creation of the Musical Map Method that contains original approach toward creation of musical map and determination of the necessary factors that could substantially influence its implementation. Thesis also contains hypothetical method for its implementation, and that is the next phase which should be conducted with the business partner or company interested to study the proposed model.

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ABSTRACT

Practical approach to the issue of music applicability is a multi-disciplinary taking into account the complexity of working environment, personality of modern managers and the sole human nature. Musical map could serve to HR experts in building innovative programs of staff training in accordance with organization' preferences and individuals' uniqueness. Recent investigations of the connection between music and motivation, music and team work, music and creativity, music and learning process, are opening numerous options for practical applicability of music in working environment aimed at increasing existing competencies and developing the new ones. The need for an increase in staff performances has imposed a need to explore how musical practice can support creation and implementation of realistic organizational goals in intercultural environment.

The main goal of this doctoral thesis is to examine musical preferences and applicability of music with its positive effects on different aspects of working environment, creating thus, *via* empirical research, a musical map of geographical region that could be employed to increase working performance and efficiency. In order to achieve the goals defined, a field research has been conducted via structured questionnaire including 6 socio-demographic variables (gender, age, educational degree, position in the organization, sector and working experience) and 6 dependant variables (working atmosphere, efficiency in accomplishing tasks at work, motivation, learning, team work and stress reduction). The research was conducted in Serbia, on a random sample of 126 managers and employees in Belgrade, Novi Sad and Novi Pazar. The main hypothesis was that *applicative music positively affects creation of proper corporative ambient and improvement of employees' competences*, and was tested via 13 auxiliary hypotheses.

Main empirical outcome of the Ph.D. thesis research is the determination of Serbian working population Musical Map and results of influence of certain socio-demographic and professional factors on the Musical Map Method implementation. HR staff would subsequently implement the "concept of musical map method" within its own company that is expected to increase motivation, learning and creativity as shown empirically in the study conducted. Also team work and working efficiency are expected to increase and stress at work to decrease under the proper musical exposition and all of these are explicitly shown in the thesis research results. In addition, influence of the degree of education on musical preference at work place and in general are the most surprising data, as revealed by chi square test if independence. Although general statistics of total sample on participant's opinion, speaks in favour of hypotheses confirmation expressing positive effects of music on 6 dependent variables, there are some fine differences, influenced by cardinal and derived variables, as shown by one way ANOVA test (e.g. influence of gender on opinion of positive music effects on stress reduction etc.).

The final result of the thesis is the creation of the Musical Map Method that contains original approach toward creation of musical map and determination of the necessary factors that could substantially influence its implementation. Method could be applied anywhere in the Globe to produce other unique music maps as per sponsor request.

KEY WORDS: musical map, musical preference at workplace, motivation, working efficiency, work stress reduction, HR manager

In Prague, 22nd August 2013

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