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Title of the Doctoral Thesis:

New Trends in Developing Managerial Competencies for Modern Companies:

Applicability of Music in Improving Business Efficiency and Working Environment

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Declaration of Authenticity

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Prague, August 28, 2013 Signature

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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

Il titolo della Tesi di dottorato:

Nuove tendenze dello sviluppo di competenze manageriali per le aziende moderne:

Applicazione della musica in miglioramento d’efficienza ed ambiente di lavoro

RIASSUNTO

Approccio pratico alla questione dell'applicabilità di musica è una presa multi-disciplinare, tenendo in considerazione della complessità dell'ambiente di lavoro, personalità del manager moderno e la sola natura umana. Mappa Musicale potrebbe servire ad HR esperti nella creazione di programmi innovativi di formazione del personale in conformità con le preferenze dell'organizzazione e unicità personale. Recenti indagini del collegamento tra la musica e la motivazione, la musica e il lavoro di squadra, la musica e la creatività, la musica e il processo di apprendimento, stanno aprendo numerose opzioni per l'applicabilità pratica della musica in ambiente di lavoro volto ad aumentare le competenze esistenti e lo sviluppo di quelle nuove. La necessità di un aumento delle prestazioni del personale ha imposto la necessità di esplorare in quale modo la pratica musicale può sostenere la creazione e realizzazione di obiettivi organizzativi realistici in ambiente interculturale.

L'obiettivo principale di questa tesi di dottorato è quello di esaminare le preferenze musicali e applicabilità della musica con i suoi effetti positivi su diversi aspetti dell'ambiente di lavoro, creando così, *via* la ricerca empirica, una mappa musicale della regione geografica che potrebbe essere usato per aumentare le prestazioni di lavoro e di efficienza. Al fine di realizzare gli obiettivi definiti, una ricerca sul campo è stata condotta tramite questionario strutturato tra 6 variabili socio-demografiche (sesso, età, titolo di studio, posizione nell'organizzazione, il settore e l'esperienza) e 6 variabili dipendenti (ambiente di lavoro, l'efficienza nella realizzazione di compiti di lavoro, la motivazione, l'apprendimento, il lavoro di squadra e la riduzione dello stress). La ricerca è stata condotta in Serbia, su un campione casuale di 126 dirigenti e impiegati a Belgrado, Novi Sad e Novi Pazar. L'ipotesi principale era che *la musica applicativa influenza positivamente la creazione di un adeguato ambiente corporativa e il miglioramento delle competenze dei lavoratori*, ed è stato testato tramite 13 ipotesi ausiliarie.

Il risultato empirico principale di ricerca della tesi di dottorato è la determinazione della popolazione serba di lavoro, Musicale Mappa e risultati di influenza di alcuni fattori socio-demografici e professionali sull’implementazione di metodo Mappa Musicale. HR personale avrebbe successivamente attuare il "concetto di metodo map musicale" nella propria azienda che si prevede di aumentare la motivazione, l'apprendimento e la creatività come mostrato empiricamente nello studio condotto. Anche il lavoro di squadra e l'efficienza di lavoro sono previsti in aumento, mentre lo stress sul posto di lavoro è previsto di diminuire sotto la corretta esposizione musicale, e tutto questo è esplicitamente mostrato nei risultati di ricerca della tesi. Inoltre, l'influenza del grado di titolo di studio sulla preferenza musicale al posto di lavoro sono in generale i dati più sorprendenti, come rivelato dal *Chi* Quadrato test dell'indipendenza. Anche se le statistiche generali del campione totale sull’opinione del partecipante, parla in favore della ipotesi conferma esprimendo gli effetti positivi della musica su 6 variabili dipendenti, ci sono alcune sottili differenze, influenzati da variabili cardinali e derivate, come mostra il test ANOVA (ad esempio, l'influenza di genere sull’opinione di effetti musicali positivi sulla riduzione dello stress, ecc.).

Il risultato finale della tesi è la creazione del Mappa Musicale Metodo che contiene approccio originale verso la creazione della mappa musicale e la determinazione dei fattori necessari che potrebbero influenzare notevolmente la sua implementazione. Il metodo può essere applicato in qualsiasi parte del globo per la produzione di altre mappe musicali uniche come per richiesta di sponsor.

PAROLE CHIAVE: mappa musicale, preferenza musicale su posto di lavoro, motivazione, efficienza di lavoro, riduzione dello stress sul lavoro, HR manager

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Dušan S. Smiljanić

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ABBREVIATIONS

POL	Gender (srb. *pol*)
MUPR	General Musical Preferences (srb. *opšta muzička preferencija*).
MURA	Musical Preferences at Workplace (srb. *muzička preferencija na radnom mestu*).
STA_GR	Age of Participants (srb. *starosna dob ispitanika*).
STOB	Educational Degree of Participants (srb. *stepen obrazovanja ispitanika*).
MESTR	Place of Living (srb. *prebivalište*).
SEKT	Business Sectors (srb. *sektor poslovanja*).
RAST	Participant's Work Experience (srb. *radni staž*)
POZI	Positions of Participants in Organisations (srb. *pozicija u organizaciji*).
RA	Working Atmosphere (srb. *radna atmosfera*).
EIRZ	Working Efficiency (srb. *efikasnost u ispunjavanju radnih zadataka*).
M	Employee's Motivation. (srb. *motivacija zaposlenih*).
U	Learning Process (srb. *učenje*).
TR	Team Work (srb. *timski rad*).
S	Stress at Work (srb. *stres na radnom mestu*).

1. INTRODUCTION

People have been living on Earth (Avery 2004) for about two million years and borderline between modern humans and their humanoid ancestors cannot be drawn precisely. Human is a musical being; rhythm, sound and harmony make inseparable elements of human nature.

Music has been an important segment of our everyday life since the very beginnings of our existence. The theories of the origins of music speak in favour of its applicability since certain theories assume that music appeared as a part of a working process (Andreis 1976), whilst others that it was created as a part of agricultural magical ritual. Music is deemed a universal form of social communication, and this will later serve as a basis for one of most controversial researches of our time, the Mozart Effect (Rauscher 1993). The theory of music preference states that music reveals characteristics of our personality, image we have about ourselves, as well as that listening to music in different circumstances takes majority of our time (Juslin 2011; Juslin 2008).

Following the changes in social and technological spheres, music became applied art in its most diverse aspects. Art at the beginning of 21st century made a historic circle, where performer became entertainer again, and performance became interactive communication. A similar principle refers to management, where innovation can have its outcome only in the case of direct communication with end user.

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 of dealing with these disciplines. It is intuitively assumed that creativity can be most easily induced by music (Juslin 2011). Musical education releases creative potential inside us and gives us the possibility to express ourselves through the most subjective art.

Creativity is not a privilege of artists, especially not nowadays when we have numerous technological aids which can replace the skill of music interpretation by computerised improvement of the interpretation itself (Sony). Being aware of the above stated, music can be used as a tool to achieve the full potential amongst an organisation's staff.

Globalisation has nowadays entered into all social layers and music is an important instrument of globalisation. Music came into expansion through the use of modern technology, participating in the creation of a new intercultural concept. Intercultural concept implies respect of differences and postulates of human and minority rights. This is particularly important in those environments whose organisational practice is not based on Christian-European heritage (Hassi 2012). The music is driver and its matrix itself should eliminate prejudice and open up new perspectives to help us meet people from other cultures (Goodman 2012), who are not so far away from us (Earley 2004). Genetic cultural code defining our ethnicity is commonly reflected through music, which is particularly obvious in small populations or newly-created nations (Kamberović 2009). Music affects the emotional charge (positive or negative). As an opposite in developed societies (economically), applicative music can serve as a factor which brings the additional competitive advantage to an organisation with globally oriented market.

In his dialogue *The Republic* (Platon 1992), Plato emphasised the importance of music in an ideal society, stressing that practicing music is adequate preparation for state administrator's job. This principle has been applied in the context of the development of new competences, with the difference that harmonic moment, Old Greek modi, here is enriched with application of all available musical elements. Sound harmony is probably the most realistic in reflecting what we want to achieve in our organisations.

Each organisation goes through transition in the course of its shaping, which to great extent corresponds to changes characterised by aestheticians and musicologists as rotation of Apollonian and Dionisian principle (Windelband 1951, Kovačević 1977, Moravski 1974), where Dionisian one stands for change, often a radical one and very

destructive. Members of an organisation go through similar phases at micro plan, everyone in his/her own specificity and difference, contributing to creation of organisational tissue and making a holistic mosaic.

Sound and rhythm urge to action, and action makes inseparable part of a working process. Use of music synchronisation with body rhythms (Bullard) enables working people to focus the process to the wanted spot, since music, unlike other arts, primarily acts upon our sub-consciousness. Music, as the most subjective of all arts (Uzelac 2008), is based on sound as a tool, enables us to tune those original elements contained inside every human since his/her prenatal period (Tomatis Institute). This idea has been further developed in therapeutical sense (Tomatis Institute), but the area of application in organisational environments in order to increase efficiency of work and develop better business competencies still presents a relative novelty.

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. The research itself had evolved in time, and from an empirical one it had grown into the creation of a musical map to be practically applied through music, observing the personal cultural base. Unique nature of individuals and organisations should be appreciated with fresh and innovative human resources management programme that enables workers to unwind, be more productive and creative (Ristić, Boršoš 2010). Musical map could thus serve to HR experts to build innovative program in accordance with organization' preferences and individuals' uniqueness.

Music is a symbol of harmony, beauty and creativity, and these three values should be characteristics of modern management.

2. THEORETICAL BACKGROUND

2.1. MUSIC AS UNIVERSAL LANGUAGE

Applied music as a motivating tool originates from an imitative magical ritual. Imitative or homeopathic magic (Frazer 1992) is based on the principle that similar will generate similarity; hence imitation of certain working process in principle should contribute to a successful realisation thereof. During the ritual, the desired goal is consciously imitated, whilst avoiding on the other hand the actions which could prevent a positive outcome. As a result of the aforementioned, the practice of singing during a working process was introduced and served to synchronise movements of a group performing certain activity.

Songs sung during the work (labour songs) are greatly the antecedents of ambiental, working music, and are inseparable part of ritual national songs amongst Serbs (Deretić 1990, Golemović 1997), specific in the way that they were generated within imitative magic, or to be more precise within agricultural and farmers' magic. They differ from other ritual songs primarily for their psychological function, syncretism with other arts. The main role of working songs is coordination of movements in work, contact with antecedents and supernatural forces. Singing while working since its beginnings has been a form of social communication.

By accepting Christianity, Serbs have preserved numerous elements of Old Slavic religion (symbols of oak tree as an Old Slavic holy tree in the form of Badnjak, slava – celebration of family guardian saint[1], St. Petka cult...); therefore, it is clear why ritual songs are present even today in applicative sense. Multicultural environment in the course of centuries has conditioned absorption of practice from neighbours belonging to other confession, so nowadays great Christian holiday Djurdjevdan is celebrated by Orthodox Christians and Muslims.

Even more expressed example of "non-Christian" elements is tradition of Vlach ethnic minority in Eastern Serbia who have expressed cult of the dead, cult of magic

[1] My family holiday is St. George Day *6th May* (Djurdjevdan).

and Rusalje. Until the end of XIX century, even in XX century, in the part of Homolje and Podunavlje in the area of Djerdap inhabited by Vlachs who cultivate and maintain traditional folk religion, the cult of the dead included two specific customs, unknown in the rest of the world. One of them was related to the cult of the Sun, "exhumation of the dead", and the other "black wedding" (National Geographic Srbija) with elements of deep human drama.

In his dialogue *The Republic,* Plato (Platon 1992), defined the purpose of music within the doctrine of ideal state ethos, identifying the music as an upbringing tool which educates people who will make the pillar of future ideal state, suggesting certain types of Old Greek modi to be used for educational purposes. Depending on the intention, different modi were used, such as: Doric, Ionic, Phrygian, Lydian, Mysia-Lydian, Eolic modi.

Plato's ideas about the importance of musical education were realised during 16th century, when in the middle of religious conflicts between Huguenots and Catholics, at the suasion of Catholic intellectuals, the king Charles IX of France established the Academy of Poetry and Music in Paris in 1570. In the letter he wrote to proclaim officially the establishment of the Academy, Charles IX of France stressed the importance of music which in his opinion greatly affects civic moral and obedience (Baïf). The applied concept of music in later periods had been extended in such way that music was additionally characterised as upbringing component as a form of transformation and shaping of every individual soul.

Within Byzantine cultural tradition, music has been applicative until the present day taking into account that musical notation – neume did not have the same function as in western tradition (Russian Orthodox Church).

Islamic tradition in Europe has contributed to spreading of multi-cultural concept, and is far more sophisticated in aesthetic-practical sense. Blending of sacral and secular, as well as integration of spiritual into everyday life on one hand presents specificity, but on the other it motivates compromising. In the context of better understanding, it is important to stress that there is no a unique Islamic corpus (Bosniaks are neither similar, nor akin to Indonesians); consequently, regardless of

cleric-ethnicity in the case of members of Islamic confession who are mainly secular (Bosniaks, Turks), we will state that they are an inseparable part of European cultural corpus (Karalić 2013; Mernissi 2005; Fontaine 2008; Zubović 2004).

In the course of history, the corpus of Bosniak nation had been developed on specificities of own clero-ethnicity which was recognised as a separate nation during the Tito times in the common former state, taking into account that before that period, Bosniaks used to declare themselves as members of Serbian or Croatian corpus of Muslim religion. One of the most significant Serbian writers is Mehmed Meša Selimović (Deretić 1990) declared himself as Serb of Muslim confession. He is the author of the most significant modern Serbian novel "Derviš i smrt" (The Dervish and Death), which starts with Bismil from Quran (Kamberović 2009, Korkut 2011). Historically, the process of conversion into Islam was quite often caused by pragmatic reasons, so people from these regions often took high official places in the hierarchy of Ottoman Empire, such as e.g. Mehmed Paša Sokolović (Stanojević 2009). Political context of Ottoman, Venice and Austrian-Hungarian rule was reflected to processes of affiliation to certain confessions, so national affiliation was put aside compared to the religious one.

By losing certain privileges, a part of Sandžak population and population from the region which belonged to Old Serbia (parts of Kosovo and Metohia and Macedonia) migrated to the nowadays Turkey (Bandžović 1998). In addition to converted members of Slavic nations, the corpus of modern Bosniak nation also contains descendants of Turks who came to Sandžak, as well as descendants of Slavic Bogomils (Kostenicki). They have Sunni version of Islam in common (Korkut 2011; Karalić 2013), and they also share common linguistic corpus with other nations.

Sevdalinka (Zečaj, Gribajević 1992) is one of the most representative genres. It appears as a musical-poetic form in the territory of Bosnia and Herzegovina after the Ottoman Turks had arrived and under the cultural heritage of Islam (beginning of 16th century). Cities organised according to principles of Orient urbanisation were the only possible social milieu for the development of this form. If we have to determine *sevdalinka* in sociological-historic terms, it belongs to highly urbanised patriarchal

environment of Bosnia and Herzegovina. It was generated under the influence of Mekam brought by Turks to Bosnia and Herzegovina (Zubović 2004). Mekam passed through certain transformations in Bosnia and Herzegovina, it is narrower than the Turkish and especially than the Arabic one. There is authentic Bosnian Mekam present nowadays, which is the basis for *sevdalinka,* but also for secular form and Islamic sacral music, including Adhan (Karalić 2013).

For a long time, music has been an element for creation of ideology, so analogously music can support the creation of proper corporate music. During the historic periods, music was socially deployed art, aimed at underlining the importance of a concept (Andreis 1976; Kovačević 1977). This manner was practiced in 20th century music, so that changing of musical directions enabled us to monitor social changes within the management. Musical message as an integrated part of a political concept is one of the most present motivators. The extent to which music and politics are closely correlated is best visible in German and Soviet music in the first half of 20th century. For the first time we have music generated by a decree and music inspired by technological innovations. Programme music of 20th century is inspired by rugby, radio, television in the real sense of the word (Andreis 1976).

20th century is a century of most various styles and art movements. Civilisation development enabled approximation of art and science, therefore, Karl Jung in his study "Man and his symbols" (Jung 1973) claims that science has become, to certain extent, art. Artists should adopt these new postulates as fundamental basis of new aesthetics. Tradition is deeply rooted in modern music, significantly changed and disguised in accordance with changes corresponding to changes in the society, and it moves along an imaginative direction in the system of changes past – present – future. Music of 20th century becomes applied music which provide for tone imaging of everything that surrounds us. Whether it is war, car brakes or something else, inspiration is progress.

October Revolution (Grois 1992) caused that music in the Soviet Union, as well as society in general, passed through a thorough change. Revolution destroyed the old order and prepared the grounds for realisation of far-reaching plans for the

development of socialism. New ideas of Marxism have brought new aesthetics which inherently implied musical censorship as a significant regulator. This was specifically expressed during the Stalin time, where specific attention was paid to measurement of harmful influence of music from the west. History of music in Soviet Union (Andreis 1976) presented the history of fight for musical realism, as well as fight of the Communist Party head and composers who did not want to denounce from their aesthetics. Formalism as an undesired phenomenon in Russian music was present in works of art which were close to socialist idea. In 1936, Communist Party severely criticised works of Shostakovich (Stevens) indicating the need for musical realism.

Defeat of Germany in 1st World War resulted in the development of a movement called "*Jugendmusikbewegung*", which encouraged reproductive musical art amongst the youngsters. Neoclassicism in Germany presents music for the present, i.e. works were composed for performance in the time they were generated. Neoclassical composers have models in Baroque music, but that music is contemporary in its own time. The most significant authors are Paul Hindermith, Kurt Weill and Karl Orf (Kovačević 1977). They made usable music which stressed educational role thereof and affirmation of amateur music associations and their work. Usable music was a vanguard of Third Reich ideas about simple and non-burdensome music which must not be ugly for a German person.

Improvisation moment has been present in music since its very beginnings. Jazz as a dominating improvisation genre differs from European classical music by possessing a specific social moment generated from African origins. It presents a fusion, so it is not a variant of European or African music, but musical area *sui generis*. Rhythmic pulse of jazz music is far from any modification of either European or African time schematics (Afrički Koreni). Instrumentation, basic harmonic principles and formal structures are rather of European than of African origins, and many most significant pioneers of jazz music belonged to Creolic sub-culture.

2.2. APPLICATIVE MUSIC, CULTURAL CONCEPT AND INTER-CULTURAL ENVIRONMENT

Without getting into philosophical considerations, applicative music has become an instrument of globalisation, playing a role in different areas of social activity. Cultural concept of each of us is determination of our ethos within a wider organisational concept, presenting a difficult task for professional addressing human resources because they have to find a way to involve specificity of each of us into the inter-cultural environment, which has become usual in modern companies.

Globalisation, participation in other markets, as well as fluctuation of staff, turn one organisational concept into a conglomerate of various cultural and inter-cultural patterns which are expressed, conflicted and modified every day. To this end, it is necessary to introduce ourselves to new characteristics of cultural concept of our environment and staff.

The cultural concept is a mixture of social customs, religious tradition, socio-economic factors. Introduction to the aforementioned enables us to use all the potential of our staff. Nowadays, taking into account the circumstances imposed to us through mass media, we have to pay special attention to the Islamic pattern, the concept of minority rights.

Unification and creation of matrices in certain cases can be counter-productive taking into account that cultural pattern is acquired, so it can be slightly modified, but not completely replaced. This leads us to the next concept of inter-culturalism, which has now become an inevitable factor of liberal economy (Thomas 2004).

Furthermore, we come to the issue of minority rights which, regardless of the adopted conventions and anti-discrimination laws, are not implemented in certain basic frameworks.

Nowadays there is a trend of promotion of Roma and Sinti populations' rights in several European countries. Despite high living standard, their ghettoisation is still present in some countries (ERRC, Decade of Roma Inclusion Secretariat Foundation), as well as impossibility to exercise their basic civil rights, being stigmatized, whilst

their cultural and primarily musical tradition is pre-empted by others. Non-understanding of Roma/Sinti population is based on lack of knowledge about the core everyday context, where music is absolutely important segment).

HR management includes important postulates of inter-culturalism and human resources at all levels, and top management should gain solid basis about that. The Islam (Korkut 2011; Karalić 2013) itself, as a concept, has inherently defined principles, presenting a part of Muslims' everyday life. Hijab should not represent violation of corporative pattern; it is a matter of personal choice which does not disturb our corporative cultural pattern.

Cultural concepts are now intertwining numerous activities, starting from team building, creation of different strategies, whilst it is absolutely present and necessary in the segment of HR management training.

Cultural intelligence is a concept developed by American psychologists Earley and Mosakowski, presented in 2004 in HBR magazine (Earley, Mosakowski 2004). This intelligence is based on premises of cognitive and emotional intelligence, stressing the ability to adapt and function in different cultural environments.

Managers with higher coefficient of cultural intelligence are able to fit into different environments, whilst those with lower are characterised by "ethnocentricity" (Takezawa Yasuko), a property typical for assessing the other cultural patterns based on the own one, believing in superiority of the latter. As already said, organisation has become a mixture of various cultural groups – different business cultures, up to those defined by ethnicity and geographic origin (Thomas 2004)

Distance of the national culture from the western system of values influences harder understanding and adaptation to it. The consequences of non-understanding can be multiple (Fontaine 2008; Hassi 2012).

Nationalism, as a wider determinant, is present in all cultures, but also in environments where inter-cultural environment has been even more stressed over centuries due to a fear of loss of own collective identity. This is particularly expressed in newly created countries upon the collapse of Warsaw block and secession of

Yugoslav republics. Baltic EU member states have even certain legislation imposing high limitations on their citizens who do not belong to the nation deemed as master ones by these countries - double ID system in Latvia, exam in Estonian language for non-Estonian citizens (Drobizeva), all aimed at "conservation" of their specificities. Slovenia adopted a decree prescribing that several thousands of its citizens are left with no elementary civil rights, and they are even nowadays recognised in the world as the "erased" ones (Mirovni institut 2013).

Researches conducted amongst various cultures have been subject of research interest for a range of years. One of pioneers in this area is doubtlessly Geert Hofstede, who was the first to systematise characteristics of different global cultures. Hofstede has divided cultures into five different dimensions: individualism/collectivism, masculinity/femininity, and avoidance of insecurity, distance of power and long term/short term orientation (Hofstede 1998).

The dimension of individualism/collectivism denotes the difference between societies where connections between people are pretty weak. Everybody is expected to take care of him/herself or of their families. Unlike individualistic societies, collectivistic societies imply very tight connections between people, whether they are family-based or otherwise. These are cultures in which needs of individuals are subordinate to the needs of a group.

Masculinity and femininity distinguish societies according to clear differences between genders' roles (Gilbert 2010). Excessively masculine cultures, such as Japan, for example, have clear distinctions between the roles of women and men in the society. In cultures characterized by femininity according to experts from the third wave, men and women's roles are not so clearly stressed. Both men and women are expected to be more focused on life quality rather than on quantity. The example of such society is Sweden. Taking into account the above stated, the division of cultures to masculinity/femininity can only apparently be acceptable since if we observe the state historically, cultures which we would characterised as masculine, such as Islamic countries for example, ad a number of queens (Mernissi 2005).

In order to enable understanding of the concept itself, it is necessary to stress the differences in religious ceremonies, where a member of Orthodox confession (Averkije Tausev) rarely prays alone unlike a member of Protestant Church.

Avoidance of insecurity is a cultural dimension denoting tolerance to insecure and risky life situations. Cultures not prone to insecurity obey the rules and tend to have structure and order. High tolerance with regard to social inequalities is characteristic of Latin American countries and Arabic sub-continent. The lowest tolerance to social inequalities is observed in Scandinavian countries: Norway, Denmark, Sweden and Finland, where overall social wealth is more evenly distributed. Welfare is closely related to tolerance, so these countries have the lowest degree of discrimination (e.g. sexual minorities), but on the other hand high degree of intolerance is noticed against immigrants (most of these countries are governed by right-wing parties) (Suzanne Daley).

Over the past fifteen years, Serbia has passed through a kind of cultural shock, with a lot of values having been changed. The culture has become more individualistic, unlike the collectivistic one from 1980s. From medium feministic culture, it has become quire masculine, short-term oriented, with quite considerable tolerance to social inequalities of power and income.

Possessing of adequate cultural coefficient (individual and group one) required work on mastering of skills to enable us to be successful in business in the environments that are different from those we originate from.

Cultural competence (Goodman 2012) implies cultural awareness about oneself and others, recognition of ethnocentrism, understanding of the consequences of cultural assumptions, promotion of effective labour relations, working manners in the world, cultural differences in communication styles and influence of virtual communications to intercultural understanding. Our cultural pattern is quite commonly determined by religious affiliation, so it has to be taken into account when understanding differences in the decision-making and communication ways (Khan Burdbar 2012).

In the world of global communications where time and geographic differences are levelled, recognition of cultural differences is of great importance both in the domains of business communication and distance learning, because adoption of knowledge and understanding differ from culture to culture.

In multinational companies, it is necessary that managers master the basics of Islamic prospective management (Abdus Sattar Abbasi; Weir 2008; Fontaine 2008), because it is a basis for understanding and solving of problems amongst Muslims who do not belong to the Ottoman heritage corpus.

In the countries with predominantly Muslim population, and where Sharia law (Asad 1981) is present, pure replication of western corporate practices is not purposeful because employees are not able to understand and implement such practices due to the imbuement of their everyday life with Quran (Moten 2011). Islam (Karalić 2013), like Catholicism, has its inherent idea of generalness, so Muslims belong to different cultural concepts which are traditionally very distant from each others. Quran (Korkut 2011), as a Holy Book, is non-disputable and all the acts done by the Muslims are divided into acts of "worshipping" and the acts which are not those. Everyday activities belong to the second category, but if Quran principle is implemented to them, they are brought into the first category. Hadiths contain practical guidelines (El Munziri 2004) for spiritually fulfilled life (ritual moment is defined by Quran), where adherence to them enables achievement of Jannah (Paradise) upon the end of life on the earth (Korkut 2011). For the management itself Hadees are important, each of them specifically directing a believer in order to achieve higher social goal which will provide for divine mercy while passing from this to another world.

The concept of MIT (Fontaine 2008) itself is based on two principles: Quran (Korkut 2011) and Hadees of Prophet (El Munziri 2004; Karalić 2013), defining in details everyday Muslim practices. Model A6H (Fontaine 2008), which again facilitate insight into the problem containing several alternatives within. This model is used in a causality system (cause – consequence) and enables that Sunni Muslims from the countries with majority of Islamic population of non-Ottoman heritage understand the

concept of western management ways. Muslims who belong to nations of Ottoman heritage (Turks, Bosniaks) due to the speed of cultural concept towards the European-Christian one do not have such problem expressed. Distance from Ottoman heritage which had defined elements of European culture to great extent, in my opinion, does not stand for cleaner version of Islamic spiritual thought.

Leaders of nowadays world are trying to encompass western and Islamic framework in a conceptual way. Leadership (Moten 2011) implies trust, where leaders have to rule justly (Korkut 2011) with overall interest of care for wider community. Islamic social order – *ummah* (Asad 1981) is the basis of leadership inspired by Quran principle – *shura* (Korkut 2011). The leader reports to Allah on behalf of the community, but only if he works for the interest of others. The consensus to the aforementioned is in function of Sharia provisions as a source, and most supreme forms of moral, ethical and religious values. Leadership in Islam is a voluntary relationship, but this relationship is actually between an individual and Allah, but also triple relationship between two individuals and again Allah, who acts as a mediator. *Tawhid* as a concept presents moral activity and it inherently includes elements of Sharia law, emphasising equality of people through communication process aimed at the achievement of mutual goal.

Islamic management is emphasised by authors as an acceptance of western values contrary to Islamic concept. Taking into account current trends in globalisation, tightness proposed by Islamic authors (Abdus Sattar Abbasi; Khan 2012; Fontaine 2008) for the sake of conservation of their own specificities is not possible on one hand, and at the same time it is not in the interest of people Islamic leaders are supposed to rule. It is obviously needed to provide harmonisation in order to ensure that implementation of Muslim values (Karalić 2013) is as successful as possible for the sake of long-term successful achievements.

A prejudice present in the western, but also in the Islamic societies where, for the sake of ethnocentrism, possibility of imbuement (not mixing) of several cultures in the current intercultural world is interdicted.

Management trainings in international environment (Goodman 2012; Hassi 2012) are imbued with the need for possession of cultural competences. Criticism is aimed at gaining of knowledge about different cultural perceptions; therefore, success depends primarily on coachers. Cross-culturality (Emmerling 2012) and adjustment to specific needs of managers from certain cultural environment enables the success in long run in the implementation of coaching management programme, with key word in the segment of cultural competences is concision and clarity.

Definition of a set of skills which must characterise a modern manager in order to enable a successful accomplishment of the set organisational goals, places a difficult task before the HR professionals who have to unify the requirements. As already stated, active dealing with music will help in recognising preferences of our managerial personality through a non-verbal expression, where sound is a dominating symbol and subject to be manipulated with. Music and dance therefore can help us get rid of unnecessary inhibitions which block our hidden abilities. One of excellent examples is the case of Croatian president, Mr. Ivo Josipović (Office of the President of Croatia), who is an academic composer by vocation. The profession of composer requires an overview of wider concept, as well as pre-visualisation. Changing of the usual patterns was therefore easier for Mr. Josipović, since he was a professional who was used to adjusting a musical content.

Sound "abstractness" of a musical work imposes introspection as a principle for the sake of later implementation in a wider context. Music, as an integrative component, makes it easier for us to compile and connect different concepts, creating positive working ambient, motivation for the achievement of the set goals and tasks. As a modern part of working environment, it greatly helps in relaxing our associates, making it easier for us to focus on the accomplishment of one of important segments, which is actually the improvement of the existing and creation of new competences amongst the employees (Oldham 1995). In the musical map context, music can bring the culture from our surroundings close to us.

Music can initiate an action, and is always "heard" in social context. Audition is acquired in time, while rhythm is innate as an inseparable part of our ethnicity, and is

acquired already in prenatal stage. Manipulation of rhythm is a way of motivational guide for staff, taking into account synchrony of body movements with external sources thereof. Music within a wider context shapes a unique action of thoughts, feelings and knowledge in problem solving process, planning and analysing. The action is always a result of will, and music in that sense is a tool for the accomplishment of the planned.

2.3. MUSICAL BRAIN AND THE ART OF LISTENING

Going on from the previous chapter, applicative music got its full media significance in the second part of twentieth century, when numerous researchers in the areas of psychology, neurology, management and physics were trying to enlighten the relation between music and its impact to human brain. The thing that is now obvious is the importance of achieving the coherence of brain hemispheres through their synchronisation (Schlaug 1995; Besson 1994; Juslin 2008). This is important, bearing in mind that when brain is synchronised, it is in its optimal status for learning and acquiring of new knowledge. Music therefore helps in the development of interconnections between brain's hemispheres since musical experience cannot be replaced by any other sue to its uniqueness (Bennet 2008).

Starting from Lozanov's Suggestopaedia (Georgi Kirilov Lozanov), researches have shown that music influences invoking of past experience and acquired knowledge, at the same time preserving already existing synaptic connections, and supporting the creation of new ones starting from prenatal period.

Restructuring of brainwaves (Bennet 2008) occurs due to our experience and interactions with the environment, where the capacity of areas more commonly used is increasing. Musical experience is saved in long-term memory due to the action of "mirror" neurons and therefore it can be invoked through pictures and images about it, and the sound emitted via our "inner ear" has the same effect on our brain as the

sound emitted from immediate environment. It acts as a kind of catalyst and catharsis element known to us from antic period.

In the course of newer researches, the subject thereof was therapeutical effect of music in the form of musical therapy (Ranka Radulović), as well as curing of innate psychological disorders using infra-sounds (Tomatis Institute) and modification of both instrumental music and speech (here it is important to stress that in prenatal stage, a foetus hears modified mother's voice due to amniotic fluid), until 1993 and an article published in "Nature" magazine, when F. Rauscher (Rauscher 1993), presented positive effects of Mozart music on the increase of spatial-temporal coefficient. Media campaign related to Mozart Effect that followed this event overlooked the fact that the effect of Mozart music is a short-term one, and that it exclusively refers to the above mentioned coefficient. The result of all the stated was a conclusion that Mozart music affects the increase of general IQ.

The controversy Mozart Effect caused activated numerous researchers who were trying to prove the existence of a positive effect, so it was concluded that Mozart had positive effect on patients with Alzheimer disease (Johnson 1998). The researches conducted during 1990s showed that the effect really existed (Rauscher 1995; Rauscher 1998; Nantais 1999; Rideout 1998; Rideout 1996; Rideout 1997), but is a short-term one and it occurs on the occasion of imitation of the initial conditions Rauscher stated (Johnson 1998).

The opponents of this claim (Steele 1997; Steele 1999) proved that subject is more influenced by rhythm, tonality and musical patterns than by music type itself, especially when talking about the achievement of optimal status of brain for learning (8 -13 Hz).

In his technique Suggestopaedia (Georgi Kirilov Lozanov), initially devised as a method for fast learning of foreign languages, Bulgarian researcher Georgi Lozanov was of the opinion that music composed by Vienna classics and music of romanticists positively affects the adoption of new knowledge through synchronisation of body "rhythms" with rhythmical patterns of a musical piece itself. The connection between the speech and music is reflected in the activity of temporal slices. It is more

probable that information related to music will be saved in long-term memory, because music bears within an important contextual element and associativity. In Suggestopaedia, he includes techniques of meditation and concentration, adjusted voice intonation, eye confirmation, and wen learning languages, use of various auxiliaries and dramatisation.

Ambiental music (Cebat 2000; Furnham 2002) influences increase in attention, focusing and concentration, which is specifically obvious in tactile highly specialised activities (Allen 1994). During the research of Restak (Restak 2003), Vivaldi and Beethoven's music had positive influence on integration of mental and senso-motoric activities, resulting in holistic experience in a deep and sophisticated manner. Baroque music is characterised by regular musical patterns (Skovran 1991) which can correspond to mental ones. With respect to Restak's research, J. S. Bach's music is even more purposeful, taking into account the completeness of aesthetic experience, as well as its perfect form (Skovran 1991).

Musical experience is holistic, and both brain hemispheres (Bennet 2008) participate in it only because of the difference (Crummer 1994) which exists between non-musicians and musician in information processing. The musicians (Besson 1994) analyse musical contents in left brain hemisphere and cerebellum, while non-musicians process music in right hemisphere with strong limbic activity (Schlaug 1995). Interpretation of a piece of art requires analysis of the contents, but also of the way the piece of art of presented.

The musicians analyse (Krumahansl 1997), bearing in mind that standard repertoires have been existing for decades and that they have been performed for hundreds of times. Supporters of musical semantics advocate the existence of intra-musical meaning, taking into account that musical experience itself is subjective feeling, while American philosopher Langer deems that emotions much more correspond to musical forms than to verbal constructions, that they present equivalents of language denotative meaning (Mićić).

Jensen's scanner testing showed that rhythm activates Broca's area and cerebellum, melodic line activates both hemispheres, harmony left hemisphere and

lower temporal cortex, tone pitch right auditive cortex, whilst timbre activates the right hemisphere (Jensen, 2000). Musical experience is therefore diffusively distributed, but this should be supplemented with emotion, as an important drive. Finally, musical style will influence which brain hemisphere will be activated (baroque, classical music – non-dominating, modern – dominating hemisphere).

Academic studies (Lehmann 2007; Armstrong 2009; Lerdhal 2001, Babo 2001) have proven the positive effects of playing to academic achievement and adoption of knowledge and verbal intelligence. Musical patterns correspond to mathematics (counterpoint, proportionality, frequencies). The aforementioned is best corroborated by a technique of general bass known from the baroque time (Skovran 1991).

Musical achievement is significantly dependant on relative harmonic pitch (Lerdhal 2001, Barnea 1994), i.e. the ability to recognize the melody regardless of the tonality. Playing an instrument positively affects the increase of functional connections in brain, in the region of corpus callosum which influences inter-hemisphere communication (Thompson 2008). The sound therefore can be used to approach our tacit knowledge by achieving brain coherence.

Numerous instructive compositions are nowadays trying to activate certain type of brainwaves, out of which we are most interested in beta (13 -26 Hz) and theta (4 – 8 Hz) ones, to serve as a help in learning, inspiring creative potentials and problem-solving processes (Bullard Barbara).

The researches conducted in the first decade of 21st century showed that all people have musical talent, as well as that absolute pitch is acquired, not innate (Koen 2001; McCraty 2005; Walker 2002).

As already stated, listening to music influences preservation of neurons and synapses, but playing enables additional advantages such as cognitive awareness, and synchronisation of body rhythms (faster tempo – higher heart rate). Hence, listening to music is a sort of non-verbal coaching, where barriers between conversationalists are quite commonly removed faster due to presence of music.

Business coaching are focused on the improvement of business skills (Cheryl 2011), accomplishment of personal and professional goals, more quality decision

making, personal motivation and enhancement of inter-personal communication. In addition to individual coaching, there is a possibility to apply team coaching. This type of intervention is recommended even upon the implementation of company trainings, or application of psychometric tools for the development of managerial and/or leadership tools (Sheppard 2013), since it is focused on individuals and on the development of their individual professional potentials. Although business coaching is person-oriented, it is not focused on the improvement of business system and procedures, the results of coaching measurably affect the results of a company business indirectly, through an increase in operational performance and efficiency.

One of the main elements is trust. In order to have successful intervention, it is necessary that employees feel that they always are supported and understood by their managers, and that they have confidence in their abilities. Special attention should be paid to listening. If there are people employed by the company who are unsatisfied with anything in the organisation, we can be sure that they somehow have tried to tell that to their manager. If the manager did not hear that, he/she probably had not listened (or did not want to hear), or is some previous cases his/her initial reaction had been such that employees will think twice before trying to say something next time. The ability to listen properly is one of the best abilities we can develop. Good listeners are really interested, they feel empathy, and they are trying to reveal what is hidden behind. Successful managers (Van Nort 2011; Cook 2012; Emmerling 2012; Ind 2013) are good listeners – with no exemption. What is important to stress is that listening is practice, and applicative music can help us in developing this ability (Shaw 2004; Mantere 2007; Johnson 2011; Lam 2011). Deploying good questions efficiently and listening will leave an impression on us that every obstacle we face can be removed through speech, and that solution could be reached in that way (Cheryl 2011). Conciseness in asking questions is the most important, as well as the awareness of the emotional answer which will be provoked by this question. We should practice the concept of pre-visualisation and sounds in order to enable timely controlling of communication with his/her conversationalist. The aforementioned can be practised

in preparation for the conversation, where answers are anticipated in variants, as well as managers' own reaction to these answers.

Introduction into active listening implies introduction into the interlocutor's preferences, and some basic guidelines would include compositions with maximum two or three time periods for simpler musical – emotional semiotics. Music motivates for the art of listening, because recognition of sophisticated elements contained therein will later help us in recognising more easily the emotional directions of our conversationalist. Differences in timbre and intonation (Steele 1997) quite often tell us what our conversationalist want to hide, so practicing of active listening is extremely important for managers.

Active listening can be integrated in our everyday activities, and it is very important that at the very beginning "silence" is practiced – the concept of no sound. It can serve as a good way to direct and create trust amongst conversationalists. It is therefore very important that we are able to recognise when words are redundant in our conversation.

The emotional map created through music is based on the catharses concept, which has been in application for a long time within musical therapy, where invoking of certain events should lead to emotional relief. The technique of controlled phantasies introduced by Ranka Radulović (Ranka Radulović) with certain modification could be applied in HR management, where operationalisation of difficulties, influencing the quality of emotional achievement, should be facilitated through musical experience. Musical experience can also be traumatic, taking into account that "shaking" of emotional sediment can be painful and relieving at the same time. In the course of active listening, a manager has to behave as a member of a chamber orchestra, where his/her emotional status is simultaneously adjusted to the conversationalist's one in order to enable the latter to achieve the solution. Musically speaking, the manager acts as a second violin within a string quartet (Tal-Shmotkin 2013).

Since each of us has certain styles, active listening includes gaining control over those small finesses characteristic for certain epoch. Using the analogy from

musical therapy, Bach's music can help in coaching and teambuilding, enabling better focusing on the problem, since it inherently contains patterns based on mathematical principles, order and logic (without getting into more detailed explanation of musical forms (Skovran 1991), the most analogous fugue and Bach's collection here is *"Well-Tempered Clavier"*). Tone imaging was specifically present in the manner of impressionistic music (Kovačević 1977), and therefore one of indications can be the use of piano music by Debussy (Andreis 1976) and his contemporaries. Impressionistic action itself corresponds to that from visual arts where tone colour has advantage over the form, and it does not present mere imaging and programme presentation which is the case with programme works of art of Romanticists and Baroque (Janson 2008) harpsichord players (Andreis 1976).

Active listening is double-folded, and manager has to simulate through "exercising". Active listening is not a strict process, and instead of classical music one can apply other styles, as well as non-musical sounds if the condition of mathematical proportionality is met. The concept of listening requires from us analytical skill of recognition of these elements which compose an elementary musical texture. Taking into account subjectivity, there is no a widespread model which will facilitate the process of active listening, and that is why it is necessary to explore continuously, shifting own musical-emotional map in order to motivate our coaching conversationalist. Practicing of listening is a long-term process requiring from a manager to be creative, open enough to recognise limits of their inner map, to subjectively express into objectively in order to succeed in motivating the conversationalist through musical coaching to "open" for the problem solving process. Active listening is present while playing a musical instrument. Combination of listening and playing can help us to move from the openness to notice a problem to specific solving of complex situations we face.

In the anticipation of possible conflict situations (McCraty 2005), use of vocal-instrumental music can be helpful, because there is an often situation that vocal, but also textual pattern creates proper mood we should manipulate with. In such cases, it

is important to stress the choice of music of a moderate tempo (adagio-andante) to adjust bodily rhythms of participants in subject situations.

Emotionally intelligent managers (Goleman 1995) cultivate perpetual introspection and emotional learning (Goleman 2002) as a concept practised when problem is faced. Top managers are extremely good in observing people around them. They are learning, listening, watching around. In order to enable a manager to improve his/her emotional skills of empathy, he/she has to improve his/her observation skills. Our empathy radar must stand-by to be able to recognise differences between personality types. Building a conversation profile of our conversationalist is fast and easy way to start to apply the assessment of our conversationalist's style. When observing, it is necessary to classify the signals into categories of physical reactions, conversation style and interrogation, speech patterns.

Specificity of Western Balkan nations tradition, political and transitional circumstances, consequences of civil wars (direct and indirect ones) during the 1990s, make managers from these regions different from their colleagues from other European regions. Arrival of international companies to this region at the same time posed a question in what way a "traumatised" environment with still visible consequences of unsolved historic relations can implement a corporative practice based on "protestant" ethical – individualistic principle.

Understanding of a concept of listening and work in an inner holistic mosaic will lead to the own central outcome, that is, that every piece of music art can be a part of a HR programme if general principles and subjective preferences are observed. Taking into account the need for unique means generating far-reaching results, music with its inherent elements goes beyond other idea concepts for mastering new competences. In order to enable the HR managers to apply such creative concept, they will firstly have to achieve control over their inner emotional map in order to be able to navigate their interlocutors later.

2.4. EMOTIONAL MAPPING OF A MANAGER

Emotions (Lehmann 2007; Sloboda 2001) are very important although they are often ignored in discussions. Positive emotions such as happiness, humour or joy motivates dedication to work, while negative emotions, such as fury, extreme frustration or depression have demotivating effect. It is not necessary that everybody is happy to be dedicated to work to adequate extent (Armstrong 2009).

More importantly, people should not be too unhappy, furious or depressed at work. Anger or depression is mainly focused on past events, not on future goals. Organisations benefit if they encourage positive emotions amongst their employees, since they affect dedication to work. People have various opinions what positive emotions (McCraty 2005) are and about the ways they can apply to release negative feelings.

Emotions (Baumgartner 1992) are not always based on a motif. Some people react faster than the others to routine events from the environment if they perceive such events as negative ones; their reactions are then followed by strong fury or depression for the mentioned reasons and due to earlier life experience.

Creation of positive working atmosphere pays, because employees are more dedicated to work due to reduced negativity. Music (Juslin 2011), as a strong creator of positive mood, induces positive working atmosphere.

The employees should get involved into the designing of collective working environment (Lehmann 2007; Johnson 1998), if this does not take too much of the time and does not get into conflict with other employees' needs. It is vital that employees are allowed to listen to music while they work, if it does not reduce working efficiency (which is individual), or if it does not disturb other people in their work (Furnham 2002).

Application of music as a sound barrier is useful in organisations where large number of employees sit together, but at the same time, corporative guiding is disputable since managers mainly lack adequate musical education, and such type of

intervention cannot be applied only based on somebody's preference and intuition. The key word is specificity, as in all previous segments.

Stress can be prevented to certain extent by listening to music which helps us focus on creation of musical barrier (Gosling 2002). Depending on personal preference, different musical styles can be listened to by employees via their musical devices (Restak 2003). It is therefore important that in the case of stress we should synchronise bodily and musical rhythms and tempo, so consequently it is in principle recommended to listen to music with metronomic value lower than 100 beats a minute, or andante – adagio music of the stated tempo.

In order to succeed in managing emotional challenges, we have to be aware at several different levels, and we have to direct our attention to several different directions. Consciousness as function helps us find out, feel and accept ourselves and people around us. Holistic approach to ambient creation implies a choice of atmosphere music which indirectly influences the level of conscious awareness and creativity for successful accomplishment of everyday tasks. "Encompassing" the working space involves the use of the so-called corporative music we commonly face in service providing activities. Corporate "service" music (Muzak; Bullard Barbara) includes already prepared music compilations and should raise quality, but also quantity of purchase.

At the same time, permanent listening of the same music can cause negative reactions amongst employees after a while. In the event that interpersonal relations are not at high level, music with its ability of reminiscence of previous experience can serve as an activator of previous stressors. Ambiental music (Herrington 1994, Kellaris and Kent 1992) in this context must play dual role, it should influence buyers in a motivational and relaxation way at the same time, while it should reduce degree of possible interpersonal tensions amongst employees. In order to fulfil the latter, it is important that compilations are periodically changed in working environment. Such "actions" are actually sophisticated methods for trainings in a company (Furnham 2002).

When selecting music, we have to pay attention to group preferences of buyers (Bruner 1990), characteristics of a group (age, region, etc.), but also to preferences of employees in order to reduce possible counter-productive effect. Choice for musical map is very large and generally includes ambient instrumental music, such as Budha Bar compilations (Areni 1993; Cebat 2000; Dubé, Chebat, and Morin 1995).

Over the past several decades, specific ambiental music has been composed intended for business premises, such as e.g. Muzak (Muzak), which should serve to improve the existing atmosphere instantly. The value of compositions is disputable, because it does not take into account the individual preferences of employees, nor it investigates what type of personality they belong to, since it has been established that the same type of music has different effects.

Gaining awareness through music includes recognition of inner boundaries and at the same time it enables us later to turn the weakness into a competitive advantage. In modern organisations, professional goals are continuously changing, and our managerial competences are tools which will be used to accomplish the set goals.

If competences are not reinforced by trainings and motivation factors, not only will we not succeed in accomplishing the set goals completely, but we will also become even more frustrated. Introspection leads towards awareness, which again leads towards the improvement of personal competences.

The concept of empathy (Goleman 1995, Goleman 1998; Goleman 2002) is much wider compared to affective rapport to certain person. We can define it as an "emotional radar" taking into account that emotionally competent managers are able to "read between lines" and recognise other people's emotional states. Accomplishment of certain goals influences of empathy amongst employees. Competitiveness has the influence that employees see their colleagues as competition, which affects the development of stress amongst people not individualistically conceptualised. Manipulation of bodily rhythms influences competitiveness, and in such case music should be faster than 100 metronomic beats per minute. Upgrade of competences (Lam 2011) amongst employees is realistically possible when they are satisfied with economic moment (income they earn by working

in the subject organisation). Various trainings which imply “capacity building” in the region of Western Balkan have been actual since 1990s in NGO system, but it is obvious that there is a lack of theoretical-academic bases for trainers (generally, know-how concept is applied) based on prefabricated materials and standard tests in short period of time. Holistic approach is key word, and what is even more important is the change in usual matrixes practiced by trainers. In order to confirm empirically the above stated, I participated in a one-year series of trainings organised in the area of strategic planning in NGO sector, Centre for Minority Rights from Belgrade (Minority Rights Centre), financed by OSI, Roma Health Programme from Budapest (OSI Budapest). I would assess the programme itself as unsuccessful, bearing in mind that participants did not manage to develop a strategic document for the organisation after 12 months of work, keeping the existing way of thinking and with no awareness about the necessity to change.

Numerous management professionals mainly communicate only at superficial level, since they do not have developed habit to direct themselves to personal values of their conversationalists and motives. The awareness of our impact of own personality and higher focus on others leads to successful communication (Inskip 2008). Improvement of competences will help us to stress our strong sides and avoid our limitations, as well as to focus on those segments we should improve.

Music (Caranier 2008) can help us in our analyses, since sound itself helps us in reminiscence of past events and invoking of emotional states. In intercultural environments, music serves as a cohesive factor for encompassment of a group, i.e. team members, and its use is not limited to effective time in which the team is active and where there are significant differences in culturological concept of team members.

Music (Mol 2012) makes this environment familiar to us, while placing tasks to be accomplished into a context of already known emotional map in which we feel comfortable. Choice in such heterogeneous groups (Rajnish 2011) should be based on the use of vocal-instrumental music, putting the accent on the selection thereof in a

language which is *lingua franca* in order to reduce the feeling of favorisation of certain team members.

2.5. TEAM LEARNING

When building teams (Ind 2013; Goleman 2002), it is not possible always to create positive conditions, especially when members have relatively small and relatively negative experience in team work. A manager can promote team effectiveness by directing team members to learn how they can give their individual contribution. Such approach does not affect group members on how they will approach other team members.

Instead of that, the team leader can help them how they can achieve synergetic effect in the group. Team leaders in organisations are quite commonly expected to approach his/her work at a moment when team is facing hard decisions in the implementation of certain task (Sheppard 2013).

Unfortunately, in such circumstances manager can only make a small constructive difference, and there is a possibility that he/she will divert attention of team members from other fundamental aspects of the context they should act upon. Synergetic effect can be supported through music by playing with the main intention to establish “joint” sound or rhythm (Cook 2012). Encompassing does not require the participants to have professional interpretation skill because it is enough to clap hands to achieve such synergy.

Team leadership can be extremely valuable with teams when they revise certain situation in the implementation of activity, but will not influence reverse impact of wrong directing or wrong movement of team structure.

Artistic groups performing without a conductor, the prevailing concept is the one of team leadership because each group member is entitled but also responsible for achieving the highest degree of excellence (Tal-Shmotkin 2013).

In preparatory phase, it is not unusual that certain team members are sitting amongst audience, transferring later the impressions and suggesting certain changes so that tone and dynamic balance between the sections is improved. It is important to underline that leadership in such musical groups is far from individual democracy. Consensus is an important mark, because it is necessary to define standard of sound image which we want to achieve in interpretation terms, based on the guidelines expressed in music sheets. In chamber orchestras there is a concert master who manages rehearsals, transferring recommendations members made with regard to interpretation of the piece of art, technical aspects, and solving any possible doubts related to different interpretation of certain musical fragments.

It was noticed that such orchestras need an individual to facilitate communication and coordination in the preparation of certain piece of musical art, and the same principle refers to other activities. Leadership position changes in time, but what is important is that this position is subject of agreement made by group members. Leadership position is commonly appointed to those team members who at that moment perform leading melodic line.

A team leader has to find out individual characteristics and differences between team members, and has to understand who amongst them has the interest for group excellence, which as we already know is one of the strongest characteristics of a self-management team. There is no any tangible pattern for delegating of efficient leaders (Sheppard 2013), and many professionals agree that successful leadership depends on emotional competences. Emotional competences can be improved through coaching, and in the context of coaching emotional coefficient is only the basis for further advancement of an individual.

Team excellence (Goleman 1998; Goleman 2002) depends on the way in which team effectiveness is shaped, which can also be improved through coaching. Top interpretativeness happens when a team functions in the way in which it achieves extraordinary result or outcome – great performance, original interpretation. What makes a challenge for HR managers is actually the way how to teach a leader to create a purposeful experience we call top performance. There are two cases when

excellence will not be achieved. One of these is when team leader analogously to a conductor is trying to do the entire job without including the others or without coordination. Taking into account that this is usually not possible, they most commonly try to manage every aspect of the working process, following the instructions or corrections without giving the team members to present their opinion (Weller 1999).

Excellence is, as a rule of thumb, never achieved by teams in which the leaders act as conductors. In the second case, team leaders think that excellence is achieved automatically and that it would be best to stand aside. Greatest conductors, such as Karajan and Furtwängler (Andreis 1976, Kovačević 1977) primarily listen in rehearsals, suggesting interpretative annotations, but in the performance, it is the orchestra that brings the piece of art, and the conductor only manages from the side, without too many interventions.

As already stated, the best leaders cannot make big constructive difference in case of organisations with working processes already pre-defined or limited with certain terminology. This corresponds to the difference between jazz and symphonic musician, where former has more opportunities to improvise and creatively express him/herself, while latter has to follow strictly the rules of the conductor and musical notations.

If we do not become aware that leadership is a holistic concept, we will still have the situation where the one who leads and manages will be guilty for failure of a team or the entire organisation.

2.6. NON-APPLICATION OF MUSIC

Numerous theorists addressing organisational transformation (Lam 2011; Mantere 2007; Robbins 2000) often use musical terms and models to describe possible management solutions in modern organisations. The conclusion drawn from this is lack

of knowledge about basic principles of music art, explaining why comparison with music is not the most adequate one.

Numerous creativity-related studies list jazz (Kubacki 2008) as a model and musical genre which inspires the creativity pointing out the improvising element thereof, which is something that should be included in the model of competences and organisation itself. Jazz includes improvisation as a way of expression and interpretation, but it also implies a strict musical pattern which is not innovative for this genre, but has been present in musical quantum from early ages through various expression forms.

Traditional music has contained improvisation for ages, which is a form of expression since there was a need to ornament melodic pattern. Similarly, in the mediaeval time and in Byzantine (Archimandrite George) spiritual music, we have neume model based on the text itself, where rhythmic-melodic pattern serves to stress religious text and spiritual atmosphere. The existing modi (Skovran 1991), Doric, Phrygian, Lydian, Mysia-Lydian are adjusted to the needs of Orthodox cantillating creativity (Averkije Tausev) while John of Damascus consolidated cantillation into eight voices or chorus, and composed worshipping-cantillation book under the name of "Octoechos"(Russian Orthodox Church). Positive and original line of cantillation is "ison" – the remaining part and product of ancient hypophonic cantillation: while one is singing, the others follow uniformly at the same tone as the cantillator.

Practice of *basso continuo* therefore was such that only basic lower melodic line was written, whilst using numbers to denote harmony set within a four voice part (Skovran 1991). In addition, the art of Harpsichord players used ornamentation (decoration of the main tones) since this instrument had limited duration of the made sound (due to string plucking), where at such ornamentation process often depended on the performer's inspiration and sensibility. Ornamentation is also used for programme effect – tone imaging of events and phenomena from the nature (Andreis 1976).

Stressing the importance of music in service business (Hui 1997; Herrington 1994; Kubacki 2008; Yalch 1990), as well as the importance of adjusting to clients' needs, the applicability of music in modern management organisations is set as an option for the improvement of managers' competences. With regard to the mentioned, music can be actively and specifically used in HR programmes.

In the creation of proper atmosphere, applicability has its vanguard in musical therapy and technique of controlled phantasies (Ranka Radulović), where melodic patterns are used to activate subconscious models based on our cultural-holistic ethnicity. Consequently, music can be used as a tool for successful adaptation of HR management programmes in different environments. In addition to this supplementary role, music can successfully initiate creative process, but only in case that manager (user) is actively artistically, i.e. musically expressed.

Creative nowadays is best reflected by conceptual art as a 21st century art, which contains the idea as the basis, where artist as an implementer is at the same time the subject and an object of the artistic realisation. The art of Maurizio Catellan (Maria Cristina Didiero) and Marina Abramović (LIMA) speaks about the simplification of artistic expression of the artist, as an object relieved from all interventions, where even the spectator is relieved from usually hidden essence. This returns the art in its most holistic aspect, the concept, to the very beginning and idea of tool for expressing a deeper socio-emotional message. Here it is critical to stress that simplicity is the concept itself must not have its strongpoint in banality, and that not the entire art, therefore not the creation of a musical map, is implemented only based on personal preference, but also based on deeply infixed musical experience. What particularly makes the issue of the concept a vulnerable one is actually a political message of the piece of art, since it is quite commonly forgotten that this concept should be dominating and that the mentioned distinguishes top artists from civil activists and average artists. Time and emotion are important members taking into account that Abramović (LIMA) realises the concept of *long duration* performances. She uses simple tools to influence the original emotional feeling of a spectator/participant. In parallel with technical-technological innovations, music has

changed its form, so in addition to computer processing of sound, the dominating role is given to the concept which replaces soundness, e.g. piano composition of John Cage (Andreis Josip 1976) has 4 minutes and 33 seconds of soundless concept within, which was later branded as his trade mark.

The concept of "consciousness change" of a spectator reveals our emotional map, and in out-dimensional mediation there is no possibility to have conformist action. Similar approach can be applied to HR programmes where concept of silence has the ability to "reveal" the atmosphere and to provide "more direct" facing with a problem that requires solution. Consequences of such coaching "actions" are far more long-reaching, so application thereof is possible only upon longer period of time and use of music as cathartic element.

Improvisation is really necessary in certain service businesses, when there is a need to adjust the service to be provided to the client's demands (e.g. corporative banking), but as is the case with music, it is based on clear principles which could be included in a theme with variations, where variation itself is a client's specific request (Rajnish 2011). The most serious task in the improvisation concept is the successfulness of group improvisation which should be harmonised. Similarly, improvisation in team work is the most complex one, since it usually occurs as a result of unpredicted circumstances so numerous in managers' everyday work. A successful improvisation includes proper expertise, but at the same time requires sensibility and empathy so as to enable us to assess our client and his/her needs. Without the aforementioned, improvising can be characterised as lack of professionalism and managerial skill in the course of service provision.

The success of improvisation depends also on the tension of the manager, which can be drastically increased due to short period of time given for the completion of service or due to the presence of user who is often unsatisfied and impatient, waiting for the service he/she had paid.

With regard to the development of empathy, music has its application in recognition of emotional states which will provide us with adequate answer at certain moment. Here the most dominating role of a piece of music is the role of harmony,

since it is harmony that most commonly “colours” the mood of the composition itself, but this does not have to be the case. Hence, an HR professional can be deemed a kind of “arranger” who implements his/her activities based on the set postulates. The important thing which must be stressed is that improvisation may be entertaining, as said by some HR professionals, but it requires great mastery which must be acquired over time and possibly through additional education.

2.7. INSPIRING CREATIVITY AMONGST EMPLOYEES

Taking into account the growing competition in global market, one of the tasks placed before the managers is to incite creative potentials amongst their employees. Creative people, when encountering poor solutions, do not reject them. They always explore what is good in that solution, because sometimes there s something good even in the worst solution which can be used for creation of extraordinary ideas and solutions. It is in our nature to think in the way “or, or” and to believe that everything that is bad is bad in every sense, but we basically do not see the good sides (Ristić, Boršoš).

Creativity is a cognitive process (Johnson 2011, Čančer 2013), and consequently, it is possible to influence creative performance of employees. One of the most common methods is brainstorming where a group is trying to generate creative solutions of a certain situational problem. This method includes several stages containing the achievement of consensus, from the generation of an idea to the practical outcome of the process itself (Edward de Bono).

There are numerous training courses which serve to the above mentioned, but their efficiency is related to the outcomes, more precisely to the goal we have set. Some of the trainings include the use of suggestive statements from the participants, which should generate a creative process (similar to the use of mantras). What is important to stress here is that group creative processes are absolutely applicative to an individual when he/she is trying to activate own creative potentials.

Creativity can be developed, but it is very important that managers gain control of skills which will be used to incite creativity of other people. This is affected by several elements, such as organisational culture, structure, creation of working teams, job description and wider social support.

Creativity of employees is also related to the degree of superiors' empathy, since it influences the level of wider social support in an organisation (Goleman 2002). The empathy is related to encouragement given by superiors who valuate individual contribution in an organisation and incites mutual trust.

Applicative music as ambiental part of a HR management programme can reduce the time needed for drawing a conclusion. It can incite lateral opinion (Edward de Bono) which enables the manager to form creative insights and solutions.

Term of lateral thinking was created by author Edward de Bono (Edward de Bono), in order to provide for a tool to solve problems in an indirect and creative way. This term refers to interpretations of those ideas which are not obvious and logical immediately, but also to those which cannot be reached through traditional logics – step by step, by using natural intelligence. Critical way of thinking primarily deals with judging the truthfulness of certain statements and looking for mistakes. Lateral way of thinking is focused on value-related improvement of those statements and ideas, i.e. it focuses on values they bear. A person who wants to detach from already known and existing idea and create a new one uses lateral way of thinking. Lateral way of thinking implies obligatory "exit" from the usual (traditional) way of thinking, i.e. problem solving. Creative thinking (Edward de Bono) is an inseparable part of creative behaviour or life style of an individual. It is noted that creative people use every opportunity to engage in social interactions and communication with other people, and this is reflected to work, knowledge sharing and activities coordination.

Musical map can help the process of finding a new prospective through active listening (Koen 2001; Cash 1997; Johnson 2011; McCraty 2005). Creative action includes listening and performing of percussion compositions in order to achieve faster hemisphere synchronicity (Bennet 2008), which we have already mentioned. A key musical element is rhythm, so repetition of rhythmic patterns together with the

use of complementary rhythms enriches our inner world for the realisation of another view to the existing presentation of the problem.

Creative behaviour (Ristić, Boršoš) is also related to cognitive flexibility which is under the influence of personal, but also environmental physical factors. The former includes motivation, knowledge and skills. Motivation can be inner (when job satisfaction is a result of affinity, challenge of the task, and so on), and external (when motivator is remuneration or promotion).

The concept of organisational culture also affects creative expression and it has been established that individualistic culture has more positive effects than the collectivistic one. This should be taken with certain degree of reserve, bearing in mind that numerous collectivistic cultures (Latin American and Mediterranean countries) have contributed to mankind with great creative works of art (e.g. Renaissance). (Janson 2008)

The thing that could be stated here is the importance of people's receptivity to creative behaviour (McFadzean 2000). Not all the employees are at the similar emotional level, and therefore it is very important to nurture the atmosphere free of disapprovals and fear for expressing one's opinions.

Creative programmes such as various outdoor activities can serve as an additional aid because several days spent on a mountain will not make us more creative. The key issue in outdoor training is getting rid of inhibitions as a pre-requisite for creative acting. Even best HR training will not achieve full result if our employee has not succeeded in processing his/her inhibition for any reason. Therefore, application of music as an ambiental (Areni 1993; Dubé, Chebat, and Morin 1995; Furnham 2002) factor can help in syncretism with some other type of art. Inhibition is most easily manifested in dancing (this does not anything to do with having the sense of rhythm or dance), as well as in singing. The idea for removal of inhibitions has as the first step the manipulation with voice, where a hidden stressor quite commonly does not let us present our full vocal diapason. One of useful exercises for inciting the assertiveness is singing in front of the mirror as the first step in group singing or singing in front of the audience (in our case colleagues, programme

attendants), as well as clapping exercise, where we can imitate certain rhythmic pattern while listening to music in order to enable faster integration of brain hemispheres as a basis for hemisphere synchronicity.

In the time when economic crisis is growing, creative behaviour and overcoming of cultural patterns is becoming an imperative. Therefore, cultural integration in organisations positively affects the codification of knowledge, transformation of tacit into contextual knowledge. Can artistic education incite creativity? It definitely influences it, but on the other hand, art is a skill where creative expression comes after a long range of years spent in learning technical elements (this pertains to top art).

Amateurism also has positive influence on wider perception of an individual, but nothing more than that. It is essential for a successful organisation to establish a method to transform creative ideas into innovative outcomes (product, service, process) in order to enable faster adjustment to global trends of change.

3. GOALS, CHALLENGES AND TASKS OF THE THESIS

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 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. These goals would be achieved in accordance with the laid down hypotheses and variables, setting the basis for creation of modules of applicative music and establishment of an active listening principle.

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 organisational goals in intercultural environment.

Taking into account that this Thesis addresses the application of music, the creation of a music map is taken as a result of this Paper. Musical map as such is not a prefabricated list of different compositions intended for listening, and it presents an experiential "indication" showing the way where applicative music brings new vision of an already existing competence or a solution for organisational or personal problem through the active listening concept.

3.1. CHALLENGES OF THE THESIS SUBJECT

Complexity of the applicability of music in almost all segments of human life imposes a need to research the importance of music in managers' organisational practice.

Application of art in coaching is personification of the process itself, which should facilitate achievement of the solution through sensible manipulation with cultural patterns and preferences. In the course of such process, a coacher has to possess certain know-how in order to apply professional, not personally preferential attitude in using the music as a kind of assistance in achieving his/her goals.

Use of artistic elements cannot reduce our prejudice, but will affect at least our introduction to other cultural traditions. Use of music is a way of search, where coacher directs the interlocutor in applicative terms through a musical map for the sake of noticing and reviving of a problem he/she faces.

In the analysis of different management concepts, Islamic concept has proved to be important, taking into account Quranic principle primarily as a way of living, only then as a way of thinking.

This practice is particularly useful in areas particularly burdened with unsolved historical disputes. Due to the mentioned reason, in empirical terms, choice of Western Balkan was the only logical choice taking into account turbulence of political events in that process, joint language fundus (former Yugoslav republics) and expressed ethnocentrism aimed at the development of new nations and new identities of people living in that area.

3.2. TASKS OF THE THESIS

To reach the goal of the research, i.e. to examine the managers and employees' opinion of the applicability of music in organisational practice and business, several tasks are imposed to establish the relation between dependant and independent variables.

In order to achieve the goals defined, a field research has been planned and implemented, and in accordance with the need to collect opinions from the subjects, a questionnaire was created, structured of 6 socio-demographic variables (gender, age, educational degree, position in the organisation, sector and working experience), and 6 dependant variables (working atmosphere, efficiency in accomplishing the tasks at work, motivation, learning, team work and stress). In data processing, some of the variables were recorded as new ones. 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.

4. METHODOLOGICAL BACKGROUND OF THE DISERTATION

4.1. HYPOTHESES

The main hypothesis:

Applicative music positively affects creation of proper corporative ambient and improvement of employees' competences.

Auxiliary hypotheses and codes of variables for their testing:

1. Genders and musical preferences in general and at work are independent. (POL x MUPR, MURA)
2. There is a NO influence of the age of participants on general musical preferences and musical preferences at workplace. (STA_GR x MUPR, MURA
3. There is NO influence of the living places on general musical preferences and musical preferences at workplace. (MESTR x MUPR, MURA)
4. There is NO influence of the educational degree of participants on their general musical preferences and at workplace. (STOB x MUPR, MURA)
5. There is NO influence of the business sectors of participants on their general musical preferences and at workplace. (SEKT x MUPR, MURA)
6. There is NO influence of positions of participants in organisations on their general musical preferences and at workplace. (POZI x MUPR, MURA)
7. There is NO influence of participant's work experiences on general musical preferences and at workplace.(RAST x MUPR,MURA)
8. Music positively affect working atmosphere.(RA)
9. Music positively affects working efficiency. (EIRZ)
10. Music positively affects the employee's motivation.(M)
11. Music positively affects learning.(U)
12. Music positively affects teamwork.(TR)
13. Music is reducing a work stress.(S)

4.2. VARIABLES

In the table below there is a list of variables with their technical marks and short descriptions of contents and result coding. The Table 1 contains all initial variables and derived ones. Variables of gender, age, place and educational degree describe the so-called socio-demographic characteristics, while variables of business sector, job positions and work experience describe somewhat narrower characteristics of participants, which can be called professional characteristics.

Certain initial variables, describing age and place, have been re-coded in data processing and turned into new variables. There are also musical preference variables in general and musical preferences at workplace which describe preferred type of music. Variables ST01 to ST18 are items describing attitudes of participants towards listening to music while working.

The results expressed in items ST03, ST14 and ST18 have been re-coded in order to harmonise them with the remaining items, all indicating a positive attitude, while item *ST04* have been removed in the results processing as a redundant one. From the initial results of these items, average results have been derived for the groups according to the attached key.

Table 1: Coded list of variables

Techn. mark	Contents and values
POL	Participants' gender: 1 – male; 2 – female
STA	Age, i.e. year of birth (e.g. participant born in 1965 bears the value of 65)
STA_GR	Variables derived from variable STA, so it divides participants into two groups: 1 – older ones, born in 1970 and earlier: 2 – younger ones, born in 1971 and later
MEST	Place: 1- big cities (BG, ZG...); medium (NS, PA...); 3 – smaller places (Banatsko Novo Selo, Žabalj...)
MESTR	Recorded variable of participants' place of living: 1 – big cities; 2 – smaller cities and places
STOB	Education: 1 – college; 2 – high; 3 – MSc, PhD; 4 – other
SEKT	Business sector: 1 – private; 2 – public
POZI	Position in the organisation: 1 – lower (e.g. sales representatives); 2 – medium (e.g. advisors); 3 – high (general and executive directors...)

RAST	Work experience: 1–5 years; 2 – 6-10 years; 3 – 11-15 years; 4 – more than 15 years.
ST01 to ST18	Claims from questionnaire 1-18 describing participants' attitudes towards music at workplace: 3 – I agree; 2 – indecisive; 1 – I don't agree (without item ST04)
MUPR	General musical preference: 1 – folk; 2 – pop; 3 – rock/jazz; 4 – classic; 5 – instrumental, ambient.
MURA	Musical preference at workplace: the same as previous.
RA	Average result for participants per items according to the key, indication of participants' attitude towards the influence of music to working atmosphere.
EIRZ	Average result for participants per items according to the key, indication of participants' attitude towards the influence of music to the efficiency in fulfilment of working tasks.
M	Average result for participants per items according to the key, indication of participants' attitude towards a positive influence of music to the working motivation.
U	Average result for participants per items according to the key, indication of participants' attitude towards a positive influence of music to the learning process.
TR	Average result for participants per items according to the key, indication of participants' attitude towards a positive influence of music to teamwork.
S	Average result for participants per items according to the key, indication of participants' attitude towards a positive influence of music to stress reduction.

4.3. RESEARCH DESIGN

The field research has been conducted through a technique of formal structural communication, through a questionnaire. The questionnaire, as a research tool, has proved to be the most suitable, enabling the uniformity in researching, at the same time facilitating further processing and result analysing. The questionnaire was designed with the aim to collect necessary information about the opinion of employees, mainly managers related to applicability of music in their working environment and business training.

The claims stated in the survey are mutually related and they dictated the data analysis plan, with incorporated respondent bias. The questionnaire contains 18 claims and two open questions. Statistical analysis was applied for quantitative processing of the collected data.

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). Data collected in Serbia through the implemented survey were processed in a proper statistical methods and procedures. The order to their application was established through the methodology of scientific-research paper, which is important for drawing conclusions, timely elimination and inclusion of indirect characteristics which ensured more quality research analysis. The research was successively conducted in several time periods between 2010 and 2013.

4.3.1. INSTRUMENTS OF RESEARCH

A survey technique was applied as a part of field research. As a tool, i.e. instrument for data collection, we have used a modified questionnaire created in 2006 in accordance with the goal, tasks and research hypotheses.

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.

QUESTIONNAIRE

Dear Sir/Madam,

In front of you is a questionnaire which represents an integral part of the research on the topic *"Applicability of music in business efficiency and working environment"*.

The questionnaire itself consists of two parts.

Part one requires to circle one of the options or to enter your response where specified.

Part two of the Questionnaire consist of 18 statements, which require to mark whether you agree, are undecided or disagree, as well as two open questions which require your specific answers.

We have tried to draft the Questionnnaire so as not to consume too much of your time.

We would like to thank you for your cooperation and time and we would like to assure you that your identity will stay confidential. In addition all the data regarding the your gender, age, place and nature of work and experience, will be used solely to study working population preferences and beliefs toward music and its pplicability in modulating working environment, efficiency and creativity.

Sincerely,

Dušan Smiljanić

Gender: male female

Year of birth: _____

Place of residence: _____

Education degree: higher university MA or PhD other

Business sector: private public

Work position: _____

Years of service with the current Organization:

up to 5 years 6-10 years 11-15 years more than 15 years

1. Listening to music improves efficiency in fulfilling work-related tasks

I agree I am undecided I disagree

2. At work music helps creating a positive work environment.

I agree I am undecided I disagree

3. Music leaves an impression of a lack of professionalism of the organization itself.

I agree I am undecided I disagree

4. Folk music causes prejudice in clients.*

I agree I am undecided I disagree

5. Pleasant music diminishes my impatience whilst waiting on hold.

I agree I am undecided I disagree

6. Music motivates me whilst working.

I agree I am undecided I disagree

7. Music reduces my tension.

I agree I am undecided I disagree

8. Background music helps me memorize something.

I agree I am undecided I disagree

9. Music reminds me of learned or memorized contents.

I agree I am undecided I disagree

10. Listening to music before giving a speech or presentation reduces stage fright.

I agree I am undecided I disagree

11. Applicable music contributes to the creation of unity within the organization.

I agree I am undecided I disagree

12. Music encourages empathy (solidarity, cooperation, tolerance).

I agree I am undecided I disagree

13. I would attend a music training organized in my surrounding on a voluntary basis.

I agree I am undecided I disagree

14. Background music distracts meeting participants from the topic of the discussion.

I agree I am undecided I disagree

15. Music is important in my everyday life.

I agree I am undecided I disagree

16. Music affects the mood of my team members.

I agree I am undecided I disagree

17. Music has an impact on generating new ideas.

I agree I am undecided I disagree

18. Music has a destructive influence on team spirit.

I agree I am undecided I disagree

19. What kind of music do you prefer?

_____

20. Your suggestion for listening to at work is:

_____

**Claim 4 was after all removed from further analyses since even when decoded did not produce sensible results when combining into variable of music effects of working atmosphere (RA)*

Claims 2, 3, 11, 12 explored the worker's opinion about the applicability of music to working atmosphere (RA).

Claims 1, 14 were used to explore the worker's opinion about the applicability of music to the efficiency in fulfilment of working tasks (EIRZ).

Claims 6, 15 were used to explore the worker's opinion about the applicability of music to motivation (M).

Claims 5, 7, 10 were used to explore the worker's opinion about the applicability of music to stress reduction (S).

Claims 8, 9, 13 were used to explore the worker's opinion about the applicability of music to learning process (U).

Claims 16, 17, 18 were used to explore the worker's opinion about the applicability of music to teamwork. The third part contains two open questions (TR).

4.3.2. SAMPLE:

The survey was conducted in the Republic of Serbia on a random sample of 126 managers in Belgrade, Novi Sad and Novi Pazar. The participants came from private service-related sector and from state administration.

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.

108 participants stated their educational degree, 18.03% with higher school, 53.28% with faculty degree, 14.75% with Master or Doctorate degree, and 13.93% with some other educational degree out of total number of participants who answered this question.

Out of a total of 126, 107 participants stated which sector they belong to: 58.47% in private and 41.53% in public sector.

113 participants stated their position in their respective organizations. 38 of them or 33.63% answered that they are top managers (general and executive

directors, presidents of managing boards), 56 or 49.56% stated that they belong to medium management layer (e.g. consultants, key account managers), while 19 or 16.81% stated that they occupy some of lower managing positions in their organisations (e.g. sales representatives)

39.68% participants out of a total number stated that they have up to 5 or fewer years of work experience in their current organisations, 20.63% have between 6 and 10 years of experience, 14.29% have between 10 and 15 years of experience, and 25.40% participants have more than 15 years of experience in their current organisations.

5. RESULTS

Data collected in the conducted survey via questionnaire 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. Thus, information gained from population characteristics such as distribution of gender, position within an organization, level of education etc., won't be used in other ways except for studying the afore-mentioned themes.

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, say, 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 provided 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 (one way analysis of variances - ANOVA and P value from Chi square analysis) and how strong it is (Pearson's contingency coefficient, C).

The final result of the empirical research is creation of the Musical Map which should, in its own aspect, enable the development and nurturing of the concept of active listening and its implementation into everyday work process leading to its increased qualities in terms of efficiency and creativity.

Results of arithmetic means (AM) calculated for variables concerned with the claims were totalled 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 hypothesis. 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 (RA), 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 harmonised in such answers, i.e. they thought that music is important for working environment. By examining results from Table 2, 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.

Table 2: Assessment of parameters of central tendency and dispersion of average results in variables

	N	Range	Min	Max	AM	SD
RA	126	2	1	3	2.542	.437
EIRZ	126	2	1	3	2.385	.601
M	125	2	1	3	2.756	.419
U	125	2	1	3	2.227	.591
TR	125	2	1	3	2.621	.430
S	125	2	1	3	2.627	.443

Table 3: *Descriptive statistics of key claims from questionnaire*

	N	Range	Min	Max	AM	SD
ST01	126	2	1	3	2.698	.597
ST02	126	2	1	3	2.865	.407
ST03	126	2	1	3	2.579	.731
ST05	126	2	1	3	2.556	.699
ST06	125	2	1	3	2.664	.621
ST07	125	2	1	3	2.848	.459
ST08	125	2	1	3	2.088	.833
ST09	125	2	1	3	2.120	.809
ST10	125	2	1	3	2.520	.655
ST11	125	2	1	3	2.168	.820
ST12	125	2	1	3	2.592	.649
ST13	125	2	1	3	2.472	.691
ST14	125	2	1	3	2.088	.871
ST15	125	2	1	3	2.848	.441
ST16	125	2	1	3	2.728	.559
ST17	125	2	1	3	2.384	.738
ST18	125	2	1	3	2.752	.549

Also, none of individual claims from questionnaire did not score below 2.0, point toward the homogeneity of results generated by combination of claims that gave rise to variable such as the effects of music on learning, motivation, working efficiency, stress reduction etc.

5.1. TESTING CORRELATION OF VARIABLES WITH CHI SQUARE TEST OF INDIPENDENCE

As previously was mentioned, process of mutual correlation and dependence examination between different variables will not be done within cardinal (nominal) variables of socio-demographic and professional character, but will be crossed with variables that reflect population's opinion on music effects on work efficiency, atmosphere, etc.

Chi square statistics was employed since our variables, sample and general population have satisfied criteria for testing such as

- The sampling method is simple random sampling.

- Each population is at least 10 times as large as its respective sample.
- The variables under study are each categorical.
- If sample data are displayed in a contingency table, the expected frequency count for each cell of the table is at least 5.

This approach consists of four steps: (1) stating the hypotheses, (2) formulating an analysis plan, (3) analyzing sample data, and (4) interpreting results. Since our main and auxiliary hypotheses are already mentioned, in the result section, all the rest of steps will be conveyed. Regarding analysis plan, it should be stressed that sample is enough large (N=126) to accept significance level of probability (α=0.05). Within Chi square analyses, values of contingency coefficient (C) will be calculated since it tells us about the strength of the dependency between variables. However, for max and min values of C coefficient values of 1 and 0 are taken, and will not be calculated from the original sample due to its significant size. Beside Chi square test of independence, one way ANOVA will be used to verify if, between different nominal variables of which one is of socio-demographic or professional origin and other is related to music effects, there is statistically significant difference; and if there is, then Bonifferoni post test will be used to address which category within each variable contributed to that statistically significant difference. In such examples, where ANOVA analysis gives "positive-relation result", a star (*) on the graph will denote statistically significant difference at probability $p<0.05$, ** will denote statistically significant difference at $p<0.01$, if any.

Data analysis and interpreting through chi square statistics will follow in general next pattern: sing sample data, find the degrees of freedom, expected frequencies, test statistic, and the p-value associated with the test statistic. The approach described in this section is illustrated in the sample problem at the end of this lesson.

- **Degrees of freedom.** The degrees of freedom (df) is equal to:

$$df = (r - 1) * (c - 1)$$

where r is the number of levels for one categorical variable, and c is the number of levels for the other categorical variable.

- **Expected frequencies.** The expected frequency counts are computed separately for each level of one categorical variable at each level of the other categorical variable. Computed r * c expected frequencies, according to the following formula.

$$E_{r,c} = (n_r * n_c) / n$$

where $E_{r,c}$ is the expected frequency count for level *r* of Variable A and level *c* of Variable B, n_r is the total number of sample observations at level r of Variable A, n_c is the total number of sample observations at level *c* of Variable B, and n is the total sample size.

- **Test statistic.** The test statistic is a chi-square random variable (X^2) defined by the following equation.

$$X^2 = \Sigma [(O_{r,c} - E_{r,c})^2 / E_{r,c}]$$

where $O_{r,c}$ is the observed frequency count at level *r* of Variable A and level *c* of Variable B, and $E_{r,c}$ is the expected frequency count at level *r* of Variable A and level *c* of Variable B.

- **p-value.** The p-value is the probability of observing a sample statistic as extreme as the test statistic. Since the test statistic is a chi-square, the probability associated with the test statistic will be calculated using the degrees of freedom computed above.

Interpreting Results

If the sample findings are unlikely, given the auxiliary hypothesis, the auxiliary hypothesis will be rejected. Typically, this involves comparing the p-value to the significance level, and rejecting the auxiliary hypothesis when the p-value is less than the significance level or comparing X_{exp}^2 that is calculated to one from the table, X_{theor}^2 (calculated via df and significance level of 0.05), and if $X_{exp}^2 \geq X_{theor}^2$ then rejecting the auxiliary hypothesis. This of course won't stand for one way ANOVA, where probability less than significance level points to existence of statistically different differences between variables AM values.

5.1.1. General preference of music (MUPR) x participants' gender (POL)

General preference of music was derived from 19th question in the questionnaire that is an open-type question. The obtained answers were divided into five classes: (1) folk music, (2) pop music, (3) rock/jazz, (4) classical music and (5) instrumental/ambient music. MUPR was checked against gender variable and tested through auxiliary hypotheses:

Null H: *"Gender and general musical preferences are independent."*
Alternat. H: *"Gender and general musical preferences are NOT independent."*

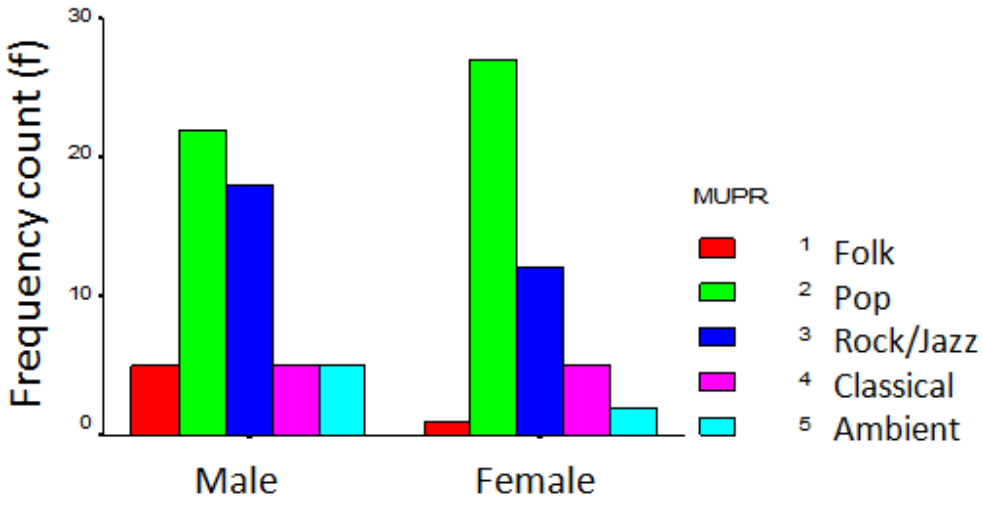

Figure 1. Distribution of MUPR frequency counts per participants' gender

Table 4. Comparative overview of contingency table

Gender (POL)			General musical preference (MUPR)					Total
			1	2	3	4	5	
Male	1	f	5	22	18	5	5	55
		POL	9.09%	40.00%	32.73%	9.09%	9.09%	100.00%
		MUPR	83.33%	44.90%	60.00%	50.00%	71.43%	53.92%
		Total	4.90%	21.57%	17.65%	4.90%	4.90%	53.92%
Female	2	f	1	27	12	5	2	47
		POL	2.13%	57.45%	25.53%	10.64%	4.26%	100.00%

		MUPR	16.67%	55.10%	40.00%	50.00%	28.57%	46.08%
		Total	.98%	26.47%	11.76%	4.90%	1.96%	46.08%
Total		f	6	49	30	10	7	102
		POL	5.88%	48.04%	29.41%	9.80%	6.86%	100.00%
		MUPR	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		Total	5.88%	48.04%	29.41%	9.80%	6.86%	100.00%

Table 5. Chi square statistical parameters

C	χ_{exp}^2	χ_{theor}^2	df	p
0.218	5.066	9.488	4	0.281

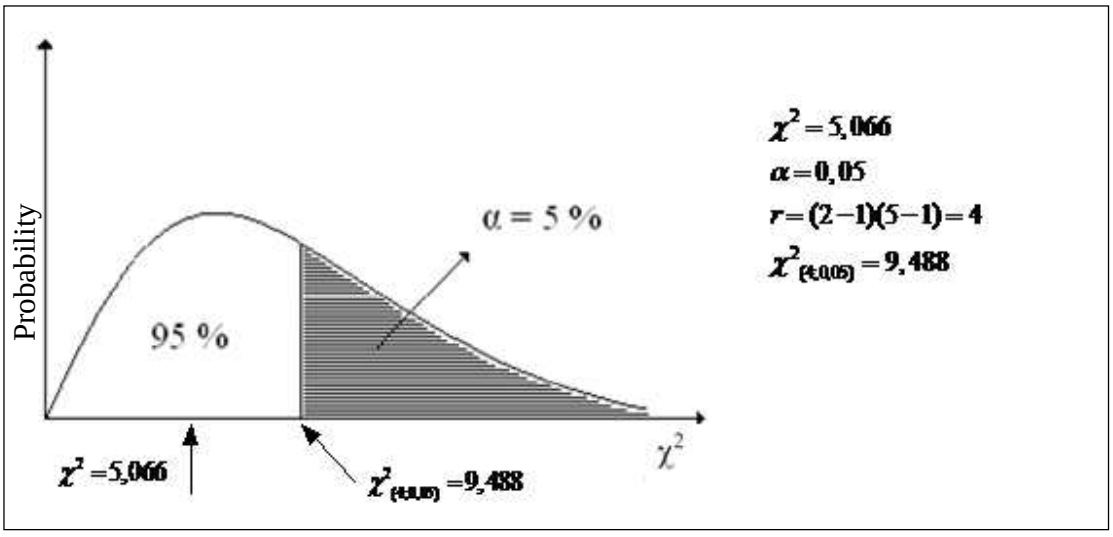

Figure 2. Chi-square (χ^2) distribution

Since $X_{exp}^2 < X_{theor}^2$, and $p>\alpha$ it can be deemed with probability of 95% that there is no statistically significant dependency between the genders in terms of general musical preference. In other words we cannot reject null hypothesis.

5.1.2 Musical preference at workplace (MURA) x participants' gender (POL)

Musical preference at workplace was derived from the 20th question in the questionnaire that is also an open-type question. The obtained answers were divided into five classes, same as in the previous result section: folk, pop, rock/jazz, classical and instrumental/ambient music. Auxiliary hypothesis is set as follows:

Null H: *"Gender and musical preferences at workplace are independent."*

Alternative H: *"Gender and musical preferences at workplace are NOT independent."*

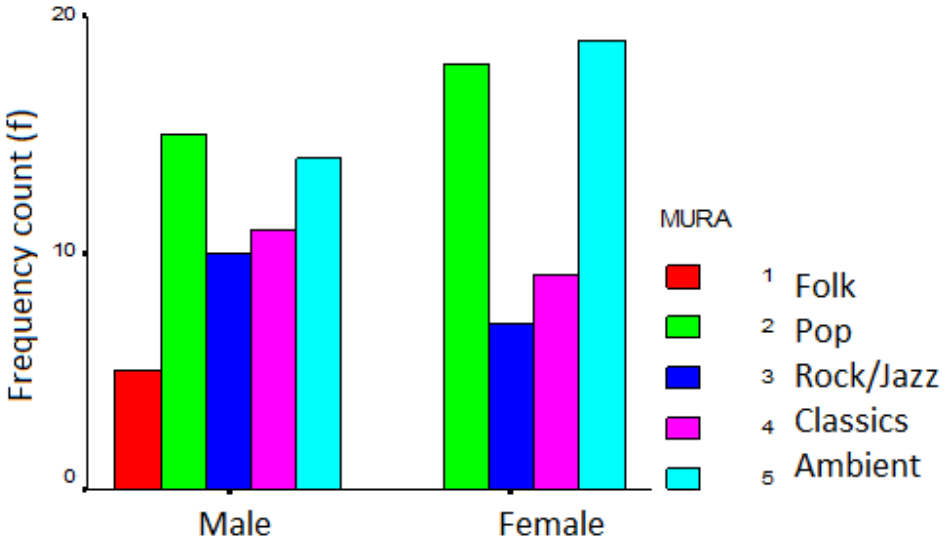

Figure 3. Distribution of MURA frequency counts as per gender

Table 6. Comparative overview of contingency table

			MURA					Total
			1	2	3	4	5	
POL	Male	f	5	15	10	11	14	55
		POL	9.09%	27.27%	18.18%	20.00%	25.45%	100.00%
		MURA	100.00%	45.45%	58.82%	55.00%	42.42%	50.93%
		Total	4.63%	13.89%	9.26%	10.19%	12.96%	50.93%
	Female	f		18	7	9	19	53
		POL		33.96%	13.21%	16.98%	35.85%	100.00%
		MURA		54.55%	41.18%	45.00%	57.58%	49.07%
		Total		16.67%	6.48%	8.33%	17.59%	49.07%
Total		f	5	33	17	20	33	108
		POL	4.63%	30.56%	15.74%	18.52%	30.56%	100.00%
		MURA	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		Total	4.63%	30.56%	15.74%	18.52%	30.56%	100.00%

Table 7. Chi square statistical parameters

C	χ_{exp}^2	χ_{theor}^2	df	p
0. 242	6.725	9.488	4	0.151

Since $\chi_{exp}^2 < \chi_{theor}^2$ i.e. the obtained value is smaller than the table one, and p $>\alpha$, it can be deemed with probability of 95% that there is no statistically significant dependency between the genders in terms of musical preferences at workplace. Hence we cannot rule out null hypothesis.

5.1.3. Participants' age (STA_GR) x general musical preference (MUPR)

Here we wanted to analyze whether there are some significant joint frequencies between participant' age and general musical preference. The obtained answers were divided into five classes: folk, pop, rock/jazz, classical and instrumental/ambient music. Hypotheses were set as follows:

Null H: "There is NO influence of the age of participants on general musical preferences." (variables are independent)

Alt H: "There is an influence of the age of participants on general musical preferences." (variables are dependent)

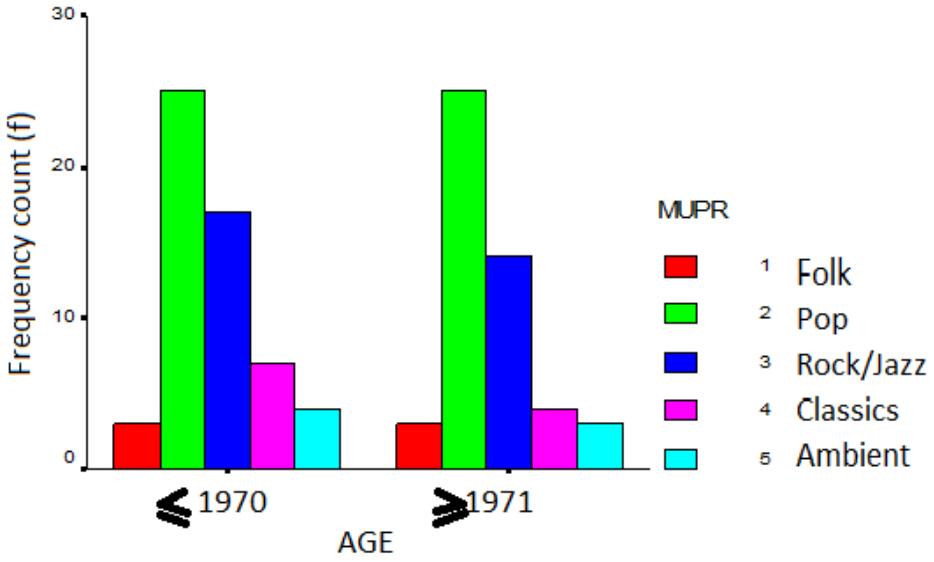

Figure 4. Distribution of frequencies as per participants' age

Table 8. Comparative overview of contingency table

			MUPR					Total
			1	2	3	4	5	
STA_GR	≤1970	f	3	25	17	7	4	56
		STA_GR	5.36%	44.64%	30.36%	12.50%	7.14%	100.00%
		MUPR	50.00%	50.00%	54.84%	63.64%	57.14%	53.33%
		Total	2.86%	23.81%	16.19%	6.67%	3.81%	53.33%
	≥1971	f	3	25	14	4	3	49
		STA_GR	6.12%	51.02%	28.57%	8.16%	6.12%	100.00%
		MUPR	50.00%	50.00%	45.16%	36.36%	42.86%	46.67%
		Total	2.86%	23.81%	13.33%	3.81%	2.86%	46.67%
	Total	f	6	50	31	11	7	105
		STA_GR	5.71%	47.62%	29.52%	10.48%	6.67%	100.00%
		MUPR	100.00%	100.00%	100.00%	100.00 %	100.00%	100.00%
		Total	5.71%	47.62%	29.52%	10.48%	6.67%	100.00%

Table 9. Chi square statistical parameters

C	χ^2_{exp}	χ^2_{theor}	df	p
0. 086	0. 788	9.488	4	0.940

Since $X_{exp}^2 < X_{theor}^2$, and $p>\alpha$ it can be deemed with probability of 95% that there is no statistically significant dependency between the different age populations, (elder than 1970 and younger than 1971) in terms of general musical preference. In other words we cannot reject null hypothesis.

5.1.4. Participants' age (STA_GR) x Musical preferences at workplace (MURA)

Similar as in previous section, we have studied connection (level of dependency) between participant age and their musical preference at workplace. Set up was identical as already mentioned in section 5.1.3 and hypotheses were as follows:

Null H: "There is NO influence of the age of participants on musical preferences at workplace." (variables are independent)

Alt H: "There is an influence of the age of participants on musical preferences at workplace." (variables are dependent)

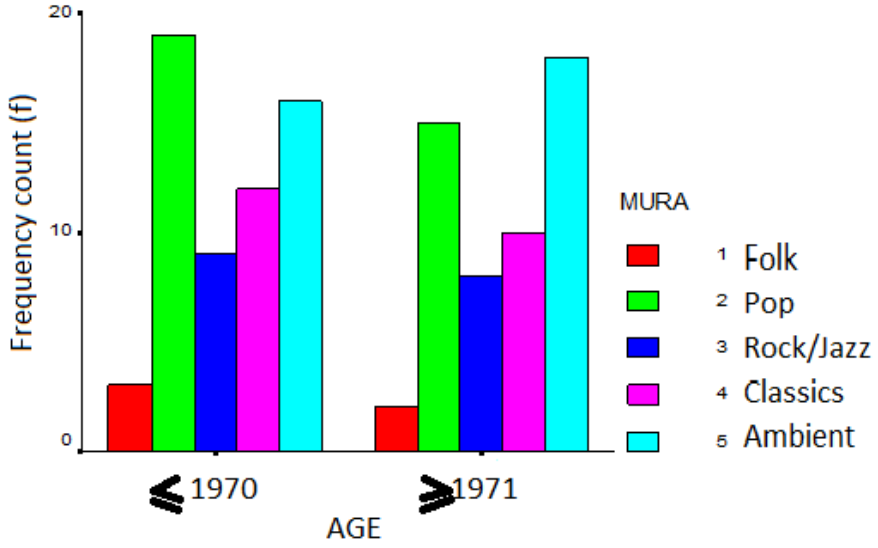

Figure 5. Distribution of MURA frequency count as per participants' age

Table 10. Comparative overview of contingency table

			MURA					Total
			1	2	3	4	5	
STA_GR	≤1970	f	3	19	9	12	16	59
		STA_GR	5.08%	32.20%	15.25%	20.34%	27.12%	100.00%
		MURA	60.00%	55.88%	52.94%	54.55%	47.06%	52.68%
		Total	2.68%	16.96%	8.04%	10.71%	14.29%	52.68%
	≥1971	f	2	15	8	10	18	53
		STA_GR	3.77%	28.30%	15.09%	18.87%	33.96%	100.00%
		MURA	40.00%	44.12%	47.06%	45.45%	52.94%	47.32%
		Total	1.79%	13.39%	7.14%	8.93%	16.07%	47.32%
	Total	f	5	34	17	22	34	112
		STA_GR	4.46%	30.36%	15.18%	19.64%	30.36%	100.00%
		MURA	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		Total	4.46%	30.36%	15.18%	19.64%	30.36%	100.00%

Table 11. Chi square statistical parameters

C	χ_{exp}^2	χ_{theor}^2	df	p
0. 079	0. 709	9.488	4	0.950

Since $X_{exp}^2 < X_{theor}^2$,and $p>\alpha$ it can be deemed with probability of 95% that there is no statistically significant dependency between the different age populations, (elder than 1970 and younger than 1971) in terms of workplace musical preference. Hence, we cannot reject null hypothesis.

5.1.5. Place of living (MESTR) x general musical preference (MUPR)

In addition, we wanted to analyze whether there are some significant dependent relationship between participant' place of living (MESTR) and general musical preference (MUPR). The obtained answers from open question no 19, were divided into five classes: folk, pop, rock/jazz, classical and instrumental/ambient music. Hypotheses were set as follows:

Null H: "There is NO influence of the living place of participants on general musical preferences." (Variables are independent)

Alt H: "There is an influence of the living place of participants on general musical preferences." (Variables are dependent)

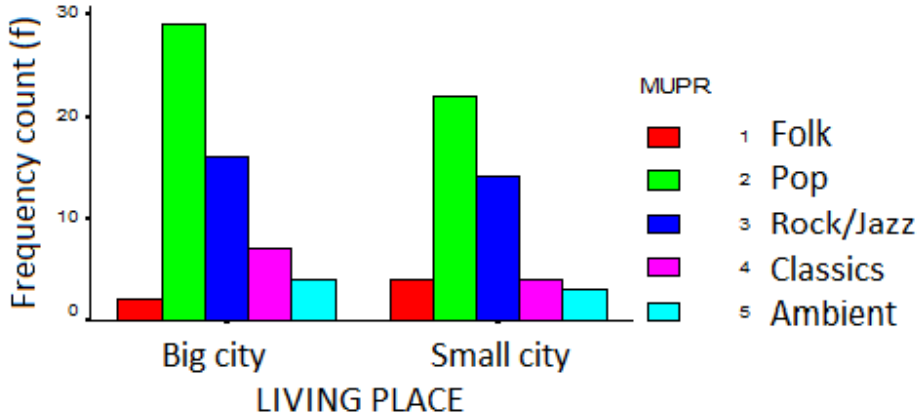

Figure 6. Distribution of MUPR frequencies as per place of living

Table 12: Comparative overview of contingency table

			MUPR					Total
			1	2	3	4	5	
MESTR	1	f	2	29	16	7	4	58
		MESTR	3.45%	50.00%	27.59%	12.07%	6.90%	100.00%
		MUPR	33.33%	56.86%	53.33%	63.64%	57.14%	55.24%
		Total	1.90%	27.62%	15.24%	6.67%	3.81%	55.24%
	2	f	4	22	14	4	3	47
		MESTR	8.51%	46.81%	29.79%	8.51%	6.38%	100.00%
		MUPR	66.67%	43.14%	46.67%	36.36%	42.86%	44.76%
		Total	3.81%	20.95%	13.33%	3.81%	2.86%	44.76%
	Total	f	6	51	30	11	7	105
		MESTR	5.71%	48.57%	28.57%	10.48%	6.67%	100.00%
		MUPR	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		Total	5.71%	48.57%	28.57%	10.48%	6.67%	100.00%

Table 13. Chi square statistical parameters

C	χ_{exp}^2	χ_{theor}^2	df	p
0. 122	1. 587	9.488	4	0.811

Since $X_{exp}^2 < X_{theor}^2$, and $p > \alpha$ it can be deemed with probability of 95% that there is no statistically significant discrepancy between the participants' place of living in terms of general musical preferences. Hence, we cannot reject null hypothesis.

5.1.6. Place of living (MESTR) x musical preferences at workplace (MURA)

Whether there is significant, dependent relationship between participant' place of living (MESTR) and musical preference at working place (MUPR) we have also tested via obtained answers from open question no 20., 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 living place of participants on musical preferences at workplace." (Variables are independent)

Alt H: "There is an influence of the living place of participants on musical preferences at workplace." (Variables are dependent)

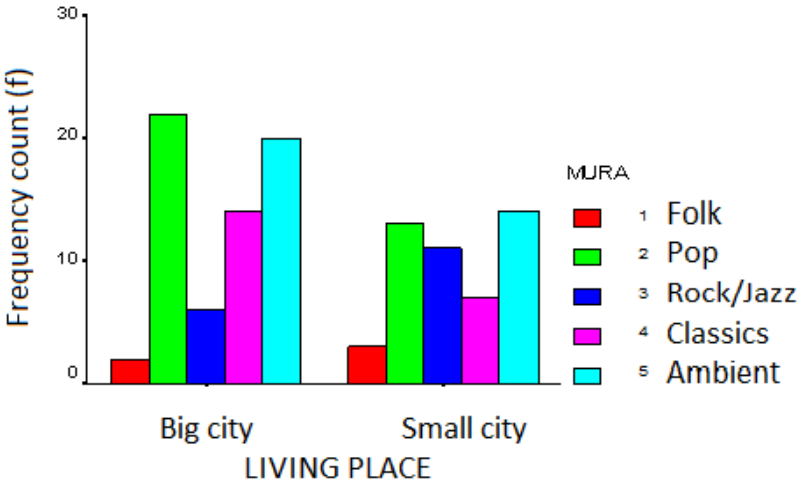

Figure 7. Distribution of MURA frequency count as per place of living

Table 14. Comparative overview of contingency table

			MURA					
			1	2	3	4	5	Total
MESTR	Big city	f	2	22	6	14	20	64
		MESTR	3.13%	34.38%	9.38%	21.88%	31.25%	100.00%
		MURA	40.00%	62.86%	35.29%	66.67%	58.82%	57.14%
		Total	1.79%	19.64%	5.36%	12.50%	17.86%	57.14%
	Small city	f	3	13	11	7	14	48
		MESTR	6.25%	27.08%	22.92%	14.58%	29.17%	100.00%
		MURA	60.00%	37.14%	64.71%	33.33%	41.18%	42.86%
		Total	2.68%	11.61%	9.82%	6.25%	12.50%	42.86%
	Total	f	5	35	17	21	34	112
		MESTR	4.46%	31.25%	15.18%	18.75%	30.36%	100.00%
		MURA	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		Total	4.46%	31.25%	15.18%	18.75%	30.36%	100.00%

Table 15. Chi square statistical parameters

C	χ_{exp}^2	χ_{theor}^2	df	p
0. 211	5.197	9.488	4	0.268

Since $X_{exp}^2 < X_{theor}^2$, and $p > \alpha$ it can be deemed with probability of 95% that there is no statistically significant dependence between the participants' place of place of living and musical preferences at workplace. Hence, we cannot reject null hypothesis.

5.1.7. Educational degree (STOB) x general musical preference (MUPR)

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)

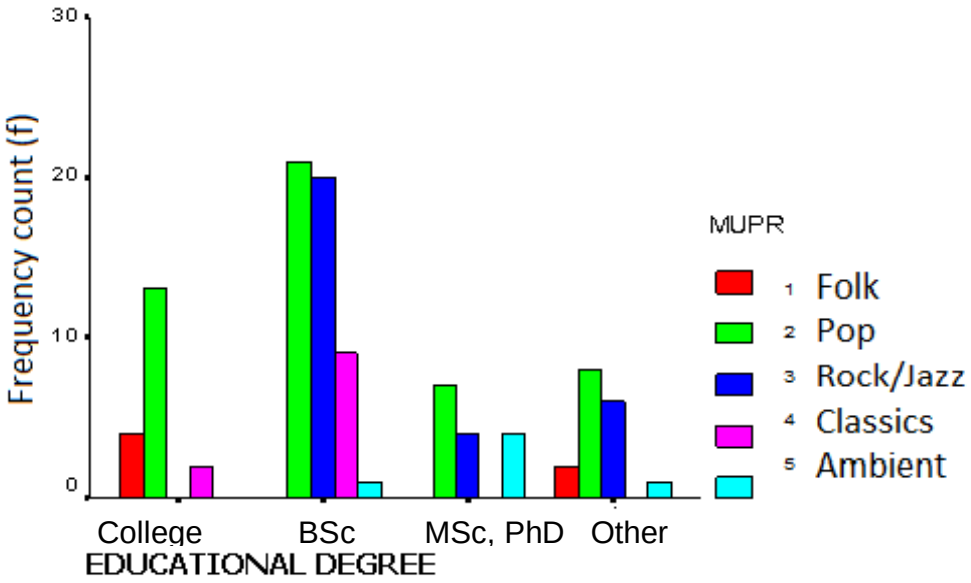

Figure 8. Distribution of MUPR frequency count as per educational degree

Table 16. Comparative overview of contingency table

			MUPR					
			1	2	3	4	5	Total
STOB	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 17. Chi square statistical parameters

C	χ_{exp}^2	χ_{theor}^2	df	p
0. 536	41. 108	21.026	12	0.000

Since $X_{exp}^2 > X_{theor}^2$, 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.

5.1.8. Educational degree (STOB) and musical preference at workplace (MURA)

Whether there is significant, dependent relationship between participant' educational degree (STOB) and musical preference at workplace (MURA) we have also tested via obtained answers from open question no 19 and 20., 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 musical preferences at workplace." (Variables are independent)

Alt H: "There is an influence of the participant's educational degree on musical preferences at workplace." (Variables are dependent)

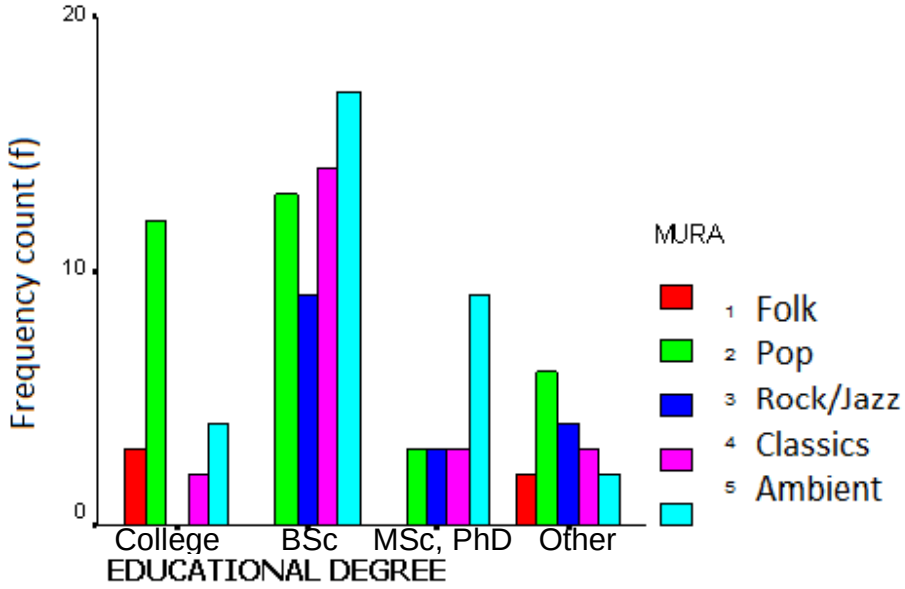

Figure 9. Distribution of MURA frequency count as per educational degree

Table 18. Comparative overview of contingency table

			MURA					Total
			1	2	3	4	5	
STOB	College	f	3	12		2	4	21
		STOB	14.29%	57.14%		9.52%	19.05%	100.00%
		MURA	60.00%	35.29%		9.09%	12.50%	19.27%
		Total	2.75%	11.01%		1.83%	3.67%	19.27%
	BSc	f		13	9	14	17	53
		STOB		24.53%	16.98%	26.42%	32.08%	100.00%
		MURA		38.24%	56.25%	63.64%	53.13%	48.62%
		Total		11.93%	8.26%	12.84%	15.60%	48.62%
	MSc, PhD	f		3	3	3	9	18
		STOB		16.67%	16.67%	16.67%	50.00%	100.00%
		MURA		8.82%	18.75%	13.64%	28.13%	16.51%
		Total		2.75%	2.75%	2.75%	8.26%	16.51%
	Other	f	2	6	4	3	2	17
		STOB	11.76%	35.29%	23.53%	17.65%	11.76%	100.00%
		MURA	40.00%	17.65%	25.00%	13.64%	6.25%	15.60%
		Total	1.83%	5.50%	3.67%	2.75%	1.83%	15.60%
	Total	f	5	34	16	22	32	109
		STOB	4.59%	31.19%	14.68%	20.18%	29.36%	100.00%
		MURA	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		Total	4.59%	31.19%	14.68%	20.18%	29.36%	100.00%

Table 19. Chi square statistical parameters

C	χ_{exp}^2	χ_{theor}^2	df	p
0. 452	27.964	21.026	12	0.006

Since $X_{exp}^2 > X_{theor}^2$, and $p > \alpha$ it can be deemed with probability of 95% that there is statistically significant discrepancy between the participants' educational degree and musical preference at workplace. Hence, we reject null hypothesis and accept alternative one.

5.1.9. Business sector (SEKT) x musical preferences at workplace (MURA)

20th question in the questionnaire is an open-type question. The obtained answers were divided into five classes: folk, pop, rock/jazz, classical and instrumental/ambient music. Hypotheses were set as follows based on assumption of equal chi distributions:

Null H: "There is NO influence of the participant's business sector on musical preferences at workplace." (Variables are independent)

Alt H: "There is an influence of the participant's business sector on musical preferences at workplace." (Variables are dependent)

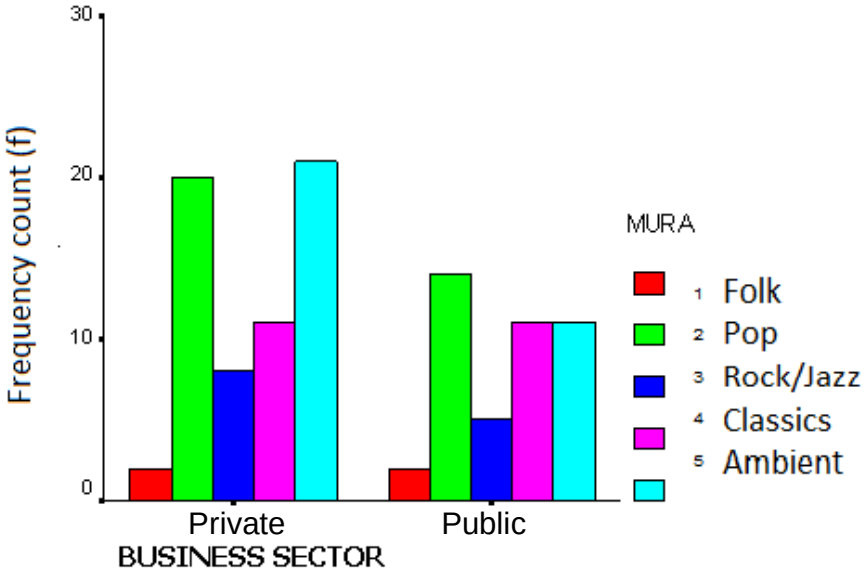

Figure 10. Distribution of MURA frequency count as per business sectors

Table 20. Comparative overview of contingency table

			MURA					
			1	2	3	4	5	Total
SEKT	Private	f	2	20	8	11	21	62
		SEKT	3.23%	32.26%	12.90%	17.74%	33.87%	100.00%
		MURA	50.00%	58.82%	61.54%	50.00%	65.63%	59.05%
		Total	1.90%	19.05%	7.62%	10.48%	20.00%	59.05%
	Public	f	2	14	5	11	11	43
		SEKT	4.65%	32.56%	11.63%	25.58%	25.58%	100.00%
		MURA	50.00%	41.18%	38.46%	50.00%	34.38%	40.95%
		Total	1.90%	13.33%	4.76%	10.48%	10.48%	40.95%
	Total	f	4	34	13	22	32	105
		SEKT	3.81%	32.38%	12.38%	20.95%	30.48%	100.00%
		MURA	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		Total	3.81%	32.38%	12.38%	20.95%	30.48%	100.00%

Table 21. Chi square statistical parameters

C	χ^2_{exp}	χ^2_{theor}	df	p
0.118	1.487	9.488	4	0.829

Since $X_{exp}^2 < X_{theor}^2$, and $p > \alpha$ it can be deemed with probability of 95% that there is no statistically significant dependency between the participants' business sector and musical preferences at workplace. Hence, we cannot reject null hypothesis.

5.1.10. Business sector (SEKT) x general musical preferences (MUPR)

19th question in the questionnaire is an open-type question. The obtained answers were divided into five classes: folk, pop, rock/jazz, classical and instrumental/ambient music. Hypotheses were set as follows based on assumption of equal chi distributions:

Null H: "There is NO influence of the participant's business sector on general musical preferences." (Variables are independent)

Alt H: "There is an influence of the participant's business sector on general musical preferences." (Variables are dependent)

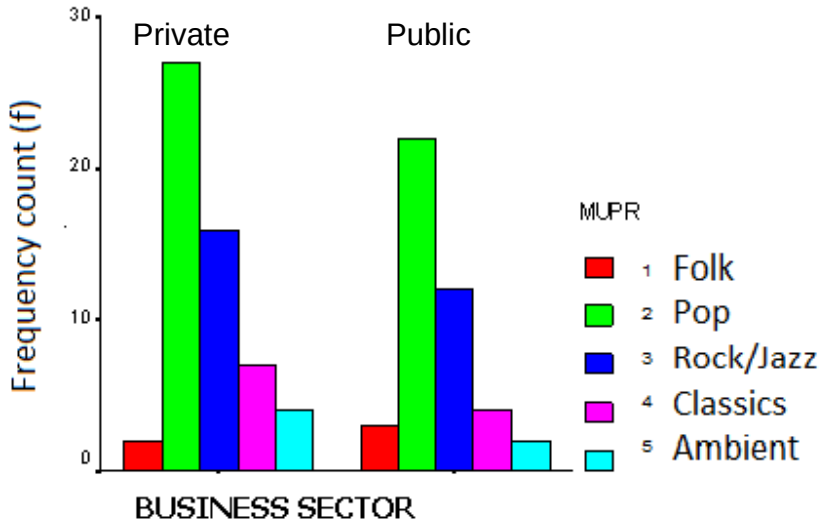

Figure 11. Distribution of MUPR frequency count as per business sector

Table 22. Comparative overview of contingency table

			MUPR					
			1	2	3	4	5	Total
SEKT	Private	f	2	27	16	7	4	56
		SEKT	3.57%	48.21%	28.57%	12.50%	7.14%	100.00%
		MUPR	40.00%	55.10%	57.14%	63.64%	66.67%	56.57%
		Total	2.02%	27.27%	16.16%	7.07%	4.04%	56.57%
	Public	f	3	22	12	4	2	43
		SEKT	6.98%	51.16%	27.91%	9.30%	4.65%	100.00%
		MUPR	60.00%	44.90%	42.86%	36.36%	33.33%	43.43%
		Total	3.03%	22.22%	12.12%	4.04%	2.02%	43.43%
	Total	f	5	49	28	11	6	99
		SEKT	5.05%	49.49%	28.28%	11.11%	6.06%	100.00%
		MUPR	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		Total	5.05%	49.49%	28.28%	11.11%	6.06%	100.00%

Table 23. Chi square statistical parameters

C	χ^2_{exp}	χ^2_{theor}	df	p
0. 104	1. 078	9.488	4	0.898

Since $X_{exp}^2 < X_{theor}^2$, and $p > \alpha$ it can be deemed with probability of 95% that there is no statistically significant dependency between the participants' business sector and general musical preferences of participants. Hence, we cannot reject null hypothesis.

5.1.11. Position in organization (POZI) x general musical preference (MUPR)

19th question in the questionnaire is an open-type question. The obtained answers were divided into five classes: folk, pop, rock/jazz, classical and instrumental/ambient music. Hypotheses were set as follows based on assumption of equal chi distributions:

Null H: "There is NO influence of the participant's position within organization on general musical preferences." (Variables are independent)

Alt H: "There is an influence of the participant's position within organization on general musical preferences." (Variables are dependent)

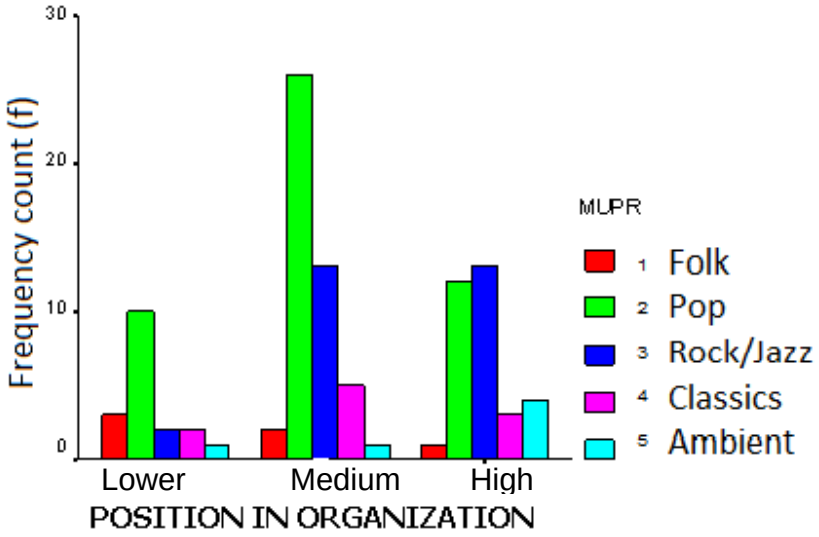

Figure 12. Distribution of MUPR frequency count as per positions in organisations

Table 24. Comparative overview of contingency table

			MUPR					
			1	2	3	4	5	Total
POZI	Lower	f	3	10	2	2	1	18
		POZI	16.67%	55.56%	11.11%	11.11%	5.56%	100.00%
		MUPR	50.00%	20.83%	7.14%	20.00%	16.67%	18.37%
		Total	3.06%	10.20%	2.04%	2.04%	1.02%	18.37%
	Medium	f	2	26	13	5	1	47
		POZI	4.26%	55.32%	27.66%	10.64%	2.13%	100.00%
		MUPR	33.33%	54.17%	46.43%	50.00%	16.67%	47.96%
		Total	2.04%	26.53%	13.27%	5.10%	1.02%	47.96%
	High	f	1	12	13	3	4	33
		POZI	3.03%	36.36%	39.39%	9.09%	12.12%	100.00%
		MUPR	16.67%	25.00%	46.43%	30.00%	66.67%	33.67%
		Total	1.02%	12.24%	13.27%	3.06%	4.08%	33.67%
	Total	f	6	48	28	10	6	98
		POZI	6.12%	48.98%	28.57%	10.20%	6.12%	100.00%
		MUPR	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		Total	6.12%	48.98%	28.57%	10.20%	6.12%	100.00%

Table 25. Chi square statistical parameters

C	χ^2_{exp}	χ^2_{theor}	df	p
0. 333	12.193	15.507	8	0.143

Since $X_{exp}^2 < X_{theor}^2$, and $p > \alpha$ it can be deemed with probability of 95% that there is no statistically significant dependency between the participants' position in organization and general musical preference. Hence, we cannot reject null hypothesis.

5.1.12. Position in the company (POZI) and musical preferences at workplace (MURA)

Whether there is significant, dependent relationship between participant' place of living (MESTR) and musical preference at working place (MUPR) we have also tested via obtained answers from open question no 20, 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 position within organization of participants on musical preferences at workplace." (Variables are independent)

Alt H: "There is an influence of the position within organization of participants on musical preferences at workplace." (Variables are dependent)

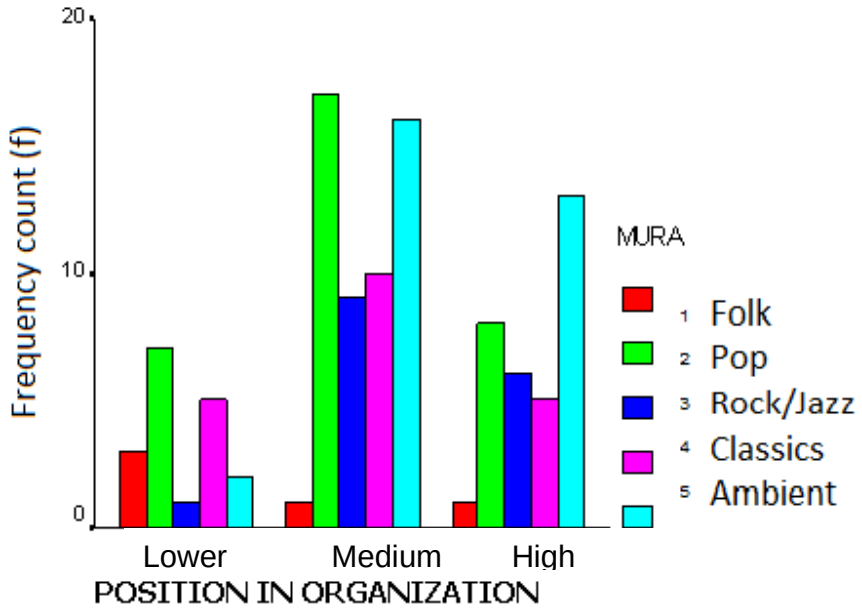

Figure 13. Distribution of MURA frequency count as per positions in organisations

Table 26. Comparative overview of contingency table

			MURA					
			1	2	3	4	5	Total
POZI	Lower	f	3	7	1	5	2	18
		POZI	16.67%	38.89%	5.56%	27.78%	11.11%	100.00%
		MURA	60.00%	21.88%	6.25%	25.00%	6.45%	17.31%
		Total	2.88%	6.73%	.96%	4.81%	1.92%	17.31%
	Medium	f	1	17	9	10	16	53
		POZI	1.89%	32.08%	16.98%	18.87%	30.19%	100.00%
		MURA	20.00%	53.13%	56.25%	50.00%	51.61%	50.96%
		Total	.96%	16.35%	8.65%	9.62%	15.38%	50.96%
	High	f	1	8	6	5	13	33
		POZI	3.03%	24.24%	18.18%	15.15%	39.39%	100.00%
		MURA	20.00%	25.00%	37.50%	25.00%	41.94%	31.73%
		Total	.96%	7.69%	5.77%	4.81%	12.50%	31.73%
	Total	f	5	32	16	20	31	104
		POZI	4.81%	30.77%	15.38%	19.23%	29.81%	100.00%
		MURA	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		Total	4.81%	30.77%	15.38%	19.23%	29.81%	100.00%

Table 27. Chi square statistical parameters

C	χ^2_{exp}	χ^2_{theor}	df	p
0. 331	12. 786	15.507	8	0.115

Since $X_{exp}^2 < X_{theor}^2$ and $p > \alpha$ it can be deemed with probability of 95% that there is no statistically significant dependency between the participants' position in the company and musical preferences at workplace. Hence, we cannot reject null hypothesis.

5.1.13. Work experience (RAST) x general musical preference (MUPR)

19th question in the questionnaire is an open-type question. The obtained answers were divided into five classes: folk, pop, rock/jazz, classical and instrumental/ambient music. Hypotheses were set as follows based on assumption of equal chi distributions:

Null H: "There is NO influence of the participant's work experience on general musical preferences." (Variables are independent)

Alt H: "There is an influence of the participant's work experience on general musical preferences." (Variables are dependent)

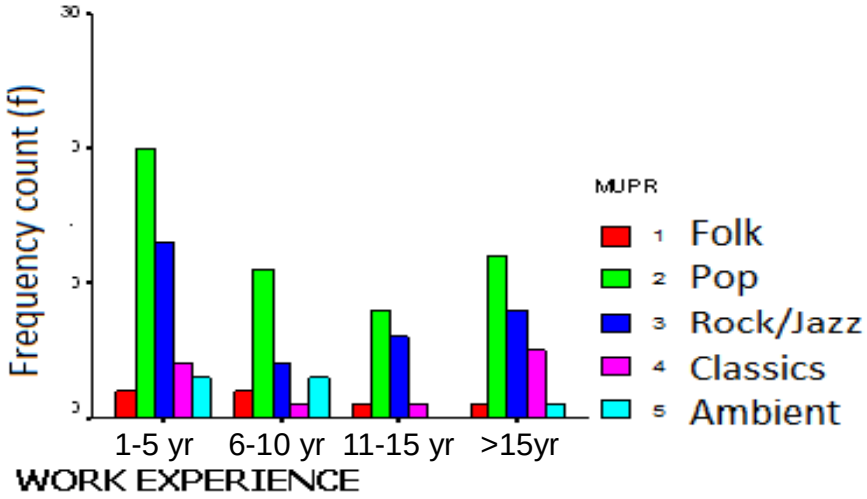

Figure 14. Distribution of MUPR frequency count as per work experience

Table 28. Comparative overview of contingency table

			MUPR					
			1	2	3	4	5	Total
RAST	1-5 yr	f	2	20	13	4	3	42
		RAST	4.76%	47.62%	30.95%	9.52%	7.14%	100.00%
		MUPR	33.33%	39.22%	41.94%	36.36%	42.86%	39.62%
		Total	1.89%	18.87%	12.26%	3.77%	2.83%	39.62%
	6-10 yr	f	2	11	4	1	3	21
		RAST	9.52%	52.38%	19.05%	4.76%	14.29%	100.00%
		MUPR	33.33%	21.57%	12.90%	9.09%	42.86%	19.81%
		Total	1.89%	10.38%	3.77%	.94%	2.83%	19.81%
	11-15 yr	f	1	8	6	1		16
		RAST	6.25%	50.00%	37.50%	6.25%		100.00%
		MUPR	16.67%	15.69%	19.35%	9.09%		15.09%
		Total	.94%	7.55%	5.66%	.94%		15.09%
	>15 y	f	1	12	8	5	1	27
		RAST	3.70%	44.44%	29.63%	18.52%	3.70%	100.00%
		MUPR	16.67%	23.53%	25.81%	45.45%	14.29%	25.47%
		Total	.94%	11.32%	7.55%	4.72%	.94%	25.47%
	Total	f	6	51	31	11	7	106
		RAST	5.66%	48.11%	29.25%	10.38%	6.60%	100.00%
		MUPR	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		Total	5.66%	48.11%	29.25%	10.38%	6.60%	100.00%

Table 29. Chi square statistical parameters

C	χ_{exp}^2	χ_{theor}^2	df	p
0. 266	8. 088	21.026	12	0.788

Since $X_{exp}^2 < X_{theor}^2$, and $p > \alpha$ it can be deemed with probability of 95 % that there is no statistically significant dependency between the participants' work experience and general musical preference. Hence, we cannot reject null hypothesis.

5.1.14. Work experience (RAST) x musical preference at workplace (MURA)

Whether there is significant, dependent relationship between participant' place of living (MESTR) and musical preference at working place (MUPR) we have also tested via obtained answers from open question no 20., 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 work experience on musical preferences at workplace." (Variables are independent)

Alt H: "There is an influence of the work experience of participants on musical preferences at workplace." (Variables are dependent)

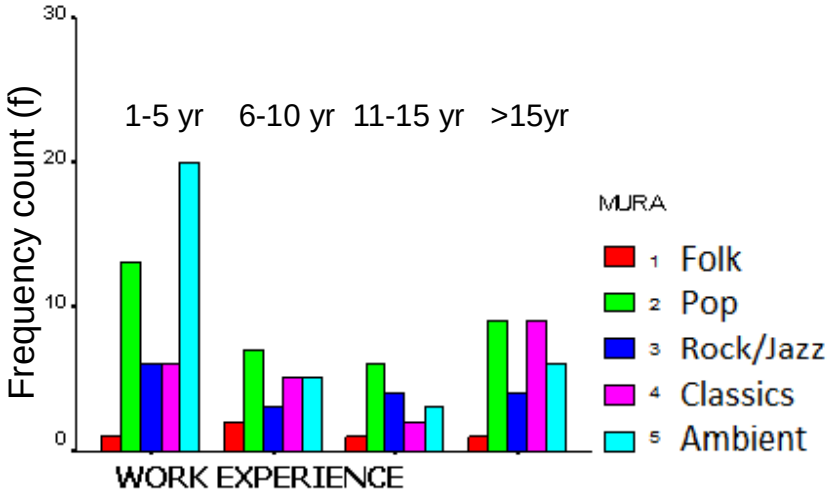

Figure 15. Distribution of MURA frequency count as per length of work experience

Table 30. Comparative overview of contingency table

			MURA					Total
			1	2	3	4	5	
RAST	1-5 y	f	1	13	6	6	20	46
		RAST	2.17%	28.26%	13.04%	13.04%	43.48%	100.00%
		MURA	20.00%	37.14%	35.29%	27.27%	58.82%	40.71%
		Total	.88%	11.50%	5.31%	5.31%	17.70%	40.71%
	6-10 y	f	2	7	3	5	5	22
		RAST	9.09%	31.82%	13.64%	22.73%	22.73%	100.00%
		MURA	40.00%	20.00%	17.65%	22.73%	14.71%	19.47%
		Total	1.77%	6.19%	2.65%	4.42%	4.42%	19.47%
	11-15	f	1	6	4	2	3	16
		RAST	6.25%	37.50%	25.00%	12.50%	18.75%	100.00%
		MURA	20.00%	17.14%	23.53%	9.09%	8.82%	14.16%
		Total	0.88%	5.31%	3.54%	1.77%	2.65%	14.16%
	>15 y	f	1	9	4	9	6	29
		RAST	3.45%	31.03%	13.79%	31.03%	20.69%	100.00%
		MURA	20.00%	25.71%	23.53%	40.91%	17.65%	25.66%
		Total	0.88%	7.96%	3.54%	7.96%	5.31%	25.66%
Total		f	5	35	17	22	34	113
		RAST	4.42%	30.97%	15.04%	19.47%	30.09%	100.00%
		MURA	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		Total	4.42%	30.97%	15.04%	19.47%	30.09%	100.00%

Table 31. Chi square statistical parameters

C	χ^2_{exp}	χ^2_{theor}	df	p
0.304	11.522	21.026	12	0.485

Since $X_{exp}^2 < X_{theor}^2$, and $p > \alpha$ it can be deemed with probability of 95% that there is no statistically significant dependency between the participants' work experience and musical preference at workplace. Hence, we cannot reject null hypothesis.

As a conclusion, 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 (MUPR) and at workplace (MURA). That means that out of all of our 7 auxiliary hypotheses related to the influence of cardinal variables such as gender, position, age, education, place of living etc, on MUPR and MURA, only, hypothesis regarding education will be changed to alternative form, e.g. *"There is an influence of the participant's educational degree on general musical preferences and at workplace." That means that education and MURA, MUPR are dependent variables.*

5.2. TESTING RELATIONSHIP OF VARIABLES DERIVED FROM POSITIVE MUSIC EFFECTS AND ITS PREFERENCES WITH ONE WAY ANOVA METHOD

When either one of variables describes the effects of music, then their dependence or relationship with other cardinal or musical preference variable was examined with one way ANOVA, as the most appropriate method for the above mentioned research setup. Significance level (α) was set as previously mentioned to 0.05., and when posting a null hypothesis, equal distribution was assumed giving rise to already established formulation pair:

Null H: "Cardinal variable (gender, age, living place, MURA, MUPR...) is NOT influencing effect of music on (Learning, motivation, stress reduction, creativity etc...)" (variables are **independent**)

Alt H: "Cardinal variable (gender, age, living place, MURA, MUPR...) is influencing effect of music on (Learning, motivation, stress reduction, creativity etc...)" (variables are **dependent**)

If any dependent relationship discovered (meaning null hypothesis is rejected and alternative accepted, if $p<\alpha$), it will be followed with Bonifferoni multiple test comparison, to determine which group within a variable contributed to the significant difference, but only if variable contains three or more groups. In the following section, only these "dependent" cases will be presented and explained, while the others will be mentioned in the text accordingly.

5.2.1. Gender (POL) x positive music effect on stress reduction (S)

Summary of ANOVA statistical results upon relationship assessment of the six affirmative musical variables, RA, EIRZ, U, M, TR and S with participant's gender (POL), revealed that gender is influencing the participant's opinion on the positive effect of music on the stress reduction (S). Results are pointing to a statistically significant difference at $p<0.05$, between male and female participants, with female showing stronger belief in positive effects of music on the working stress reduction (Tables 32 and 33).

Table 32. Central tendency and dispersion of variables per gender

		N	AS	SD	SE	DG CI	GG CI	Min	Max
RA	Male	63	2.500	.477	.060	2.380	2.620	1.000	3.000
	Female	58	2.616	.384	.050	2.515	2.717	1.500	3.000
	Total	121	2.556	.437	.040	2.477	2.634	1.000	3.000
EIRM	Male	63	2.389	.644	.081	2.227	2.551	1.000	3.000
	Female	58	2.388	.570	.075	2.238	2.538	1.000	3.000
	Total	121	2.388	.607	.055	2.279	2.498	1.000	3.000
M	Male	62	2.710	.430	.055	2.601	2.819	1.500	3.000
	Female	58	2.793	.419	.055	2.683	2.903	1.000	3.000
	Total	120	2.750	.425	.039	2.673	2.827	1.000	3.000
U	Male	62	2.194	.599	.076	2.041	2.346	1.000	3.000
	Female	58	2.270	.570	.075	2.120	2.420	1.000	3.000
	Total	120	2.231	.584	.053	2.125	2.336	1.000	3.000
TR	Male	62	2.591	.453	.058	2.476	2.707	1.000	3.000
	Female	58	2.672	.356	.047	2.579	2.766	1.667	3.000
	Total	120	2.631	.409	.037	2.557	2.705	1.000	3.000
S	Male	63	2.550	.501	.063	2.424	2.677	1.000	3.000
	Female	58	2.747	.308	.040	2.666	2.828	1.667	3.000
	Total	121	2.645	.430	.039	2.567	2.722	1.000	3.000

Table 33. One way ANOVA statistics

		SS	df	MS	F	p
RA	BG	.409	1	.409	2.161	.144
	WG	22.527	119	.189		
	Total	22.936	120			

EIRM	BG	.000	1	.000	.000	.993
	WG	44.244	119	.372		
	Total	44.244	120			
M	BG	.209	1	.209	1.156	.285
	WG	21.291	118	.180		
	Total	21.500	119			
U	BG	.176	1	.176	.513	.475
	WG	40.446	118	.343		
	Total	40.621	119			
TR	BG	.197	1	.197	1.175	.281
	WG	19.758	118	.167		
	Total	19.955	119			
S	BG	1.170	1	1.170	6.634	.011
	WG	20.993	119	.176		
	Total	22.163	120			

5.2.2. Place of living (MESTR) x opinion on positive music effect on working efficiency (EIRM)

Summary of ANOVA statistical results upon relationship assessment of the six affirmative musical variables, RA, EIRZ, U, M, TR and S with participant's place of living (MESTR) revealed that participant's place of living is influencing the participant's opinion on the positive effect of music on working efficiency (EIRM).). Results are pointing to a statistically significant difference at $p<0.05$, between participants who lives in small and big cities, where habitants of small cities and places show stronger belief into positive effects of music compared to opinion of big city habitants (Tables 34 and 35).

Table 34. Central tendency and dispersion of variables per place of living

		N	AS	SD	SE	DG CI	GG CI	Min	Max
RA	1	70	2.482	.451	.054	2.375	2.590	1.000	3.000
	2	55	2.623	.411	.055	2.512	2.734	1.500	3.000
	Total	125	2.544	.438	.039	2.467	2.621	1.000	3.000
EIRM	1	70	2.264	.594	.071	2.123	2.406	1.000	3.000
	2	55	2.527	.581	.078	2.370	2.684	1.000	3.000
	Total	125	2.380	.600	.054	2.274	2.486	1.000	3.000

M	1	69	2.754	.417	.050	2.654	2.854	1.500	3.000
	2	55	2.764	.429	.058	2.648	2.880	1.000	3.000
	Total	124	2.758	.420	.038	2.683	2.833	1.000	3.000
U	1	69	2.150	.606	.073	2.004	2.295	1.000	3.000
	2	55	2.321	.566	.076	2.168	2.474	1.000	3.000
	Total	124	2.226	.593	.053	2.120	2.331	1.000	3.000
TR	1	69	2.599	.418	.050	2.499	2.700	1.333	3.000
	2	55	2.642	.448	.060	2.521	2.764	1.000	3.000
	Total	124	2.618	.431	.039	2.542	2.695	1.000	3.000
S	1	70	2.610	.478	.057	2.496	2.724	1.000	3.000
	2	55	2.648	.403	.054	2.540	2.757	1.333	3.000
	Total	125	2.627	.445	.040	2.548	2.705	1.000	3.000

Table 35. One way ANOVA statistics

		SS	df	MS	F	p
RA	BG	.609	1	.609	3.234	.075
	WG	23.149	123	.188		
	Total	23.758	124			
EIRM	BG	2.130	1	2.130	6.155	.014
	WG	42.570	123	.346		
	Total	44.700	124			
M	BG	.003	1	.003	.017	.896
	WG	21.739	122	.178		
	Total	21.742	123			
U	BG	.900	1	.900	2.593	.110
	WG	42.333	122	.347		
	Total	43.233	123			
TR	BG	.058	1	.058	.309	.579
	WG	22.763	122	.187		
	Total	22.821	123			
S	BG	.047	1	.047	.234	.629
	WG	24.531	123	.199		
	Total	24.578	124			

5.2.3. Business sector (SEKT) x opinion on positive music effect on learning process (U)

Summary of ANOVA statistical results upon relationship assessment of the six affirmative musical variables, RA, EIRZ, U, M, TR and S with participant's business sector (SEKT) revealed that participant's business sector is influencing the participant's opinion on the positive effect of music on learning process (U). Statistically significant difference at $p<0.05$, was noticed for results on opinion of participants affiliated in private and state business sector, with later showing an stronger belief in music positively affecting learning process (Tables 36 and 37)

Table 36. Central tendency and dispersion of variables per business sector

		N	AS	SD	SE	DG CI	GG CI	Min	Max
RA	1	69	2.507	.460	.055	2.397	2.618	1.000	3.000
	2	49	2.587	.400	.057	2.472	2.702	1.500	3.000
	Total	118	2.540	.436	.040	2.461	2.620	1.000	3.000
EIRM	1	69	2.297	.590	.071	2.155	2.439	1.000	3.000
	2	49	2.500	.595	.085	2.329	2.671	1.000	3.000
	Total	118	2.381	.598	.055	2.272	2.490	1.000	3.000
M	1	68	2.721	.435	.053	2.615	2.826	1.500	3.000
	2	49	2.786	.421	.060	2.665	2.907	1.000	3.000
	Total	117	2.748	.429	.040	2.669	2.826	1.000	3.000
U	1	68	2.113	.614	.074	1.964	2.261	1.000	3.000
	2	49	2.381	.523	.075	2.231	2.531	1.333	3.000
	Total	117	2.225	.590	.055	2.117	2.333	1.000	3.000
TR	1	68	2.623	.394	.048	2.527	2.718	1.333	3.000
	2	49	2.639	.429	.061	2.516	2.763	1.333	3.000
	Total	117	2.630	.408	.038	2.555	2.704	1.333	3.000
S	1	69	2.575	.478	.058	2.460	2.690	1.000	3.000
	2	49	2.721	.387	.055	2.610	2.832	1.333	3.000
	Total	118	2.636	.447	.041	2.554	2.717	1.000	3.000

Table 37. One way ANOVA statistics

		SS	df	MS	F	p
RA	BG	.181	1	.181	.952	.331
	WG	22.065	116	.190		
	Total	22.246	117			
EIRM	BG	1.180	1	1.180	3.365	.069
	WG	40.659	116	.351		

	Total	41.839	117			
M	BG	.121	1	.121	.655	.420
	WG	21.191	115	.184		
	Total	21.312	116			
U	BG	2.049	1	2.049	6.142	.015
	WG	38.358	115	.334		
	Total	40.406	116			
TR	BG	.008	1	.008	.049	.826
	WG	19.276	115	.168		
	Total	19.284	116			
S	BG	.613	1	.613	3.128	.080
	WG	22.718	116	.196		
	Total	23.331	117			

5.2.4.General musical preference (MUPR) x opinion on positive music effect on motivation at work (M)

Summary of ANOVA statistical results upon relationship assessment of the six affirmative musical variables, RA, EIRZ, U, M, TR and S with general musical preference (MUPR) revealed that participant's general musical preference is influencing the participant's opinion on the positive effect of music on motivation at work (M). Results are pointing to a statistically significant difference at $p<0.05$ for folk, pop, jazz, classics and ambient music followers in general, with all groups having extremely high AM close to 3, except "jazz" population (Tables 38 and 39).

Boniferroni multiple comparison test statistics (Table 40) showed whose group's difference contributed to significant difference seen in ANOVA: difference between pop and jazz musical preference, meaning that jazz followers in general have weaker belief in positive music effect on motivation at work.

Table 38. Central tendency and dispersion of variables on general musical preference

		N	AM	SD	SE	DG CI	GG CI	Min	Max
RA	1	6	2.750	.418	.171	2.311	3.189	2.000	3.000
	2	51	2.515	.475	.067	2.381	2.648	1.500	3.000
	3	31	2.548	.338	.061	2.424	2.672	2.000	3.000
	4	11	2.750	.371	.112	2.501	2.999	1.750	3.000
	5	7	2.679	.345	.130	2.359	2.998	2.250	3.000
	Total	106	2.573	.420	.041	2.492	2.654	1.500	3.000
EIRM	1	6	2.167	.683	.279	1.450	2.884	1.000	3.000
	2	51	2.402	.539	.075	2.250	2.553	1.000	3.000
	3	31	2.532	.605	.109	2.310	2.754	1.000	3.000
	4	11	2.500	.500	.151	2.164	2.836	2.000	3.000

	5	7	2.786	.267	.101	2.539	3.033	2.500	3.000
	Total	106	2.462	.555	.054	2.355	2.569	1.000	3.000
M	1	6	2.917	.204	.083	2.702	3.131	2.500	3.000
	2	51	2.863	.301	.042	2.778	2.947	2.000	3.000
	3	31	2.629	.408	.073	2.480	2.779	2.000	3.000
	4	11	2.864	.452	.136	2.560	3.167	1.500	3.000
	5	7	2.929	.189	.071	2.754	3.103	2.500	3.000
	Total	106	2.802	.356	.035	2.733	2.871	1.500	3.000
U	1	6	2.389	.743	.303	1.609	3.168	1.000	3.000
	2	51	2.275	.588	.082	2.109	2.440	1.333	3.000
	3	31	2.237	.525	.094	2.044	2.429	1.333	3.000
	4	11	2.121	.688	.207	1.659	2.583	1.000	3.000
	5	7	2.476	.424	.160	2.084	2.868	2.000	3.000
	Total	106	2.267	.575	.056	2.156	2.378	1.000	3.000
TR	1	6	2.500	.782	.319	1.680	3.320	1.000	3.000
	2	51	2.614	.385	.054	2.506	2.723	1.667	3.000
	3	31	2.677	.390	.070	2.535	2.820	1.333	3.000
	4	11	2.848	.273	.082	2.665	3.032	2.333	3.000
	5	7	2.810	.378	.143	2.460	3.159	2.000	3.000
	Total	106	2.664	.408	.040	2.585	2.742	1.000	3.000
S	1	6	2.611	.491	.200	2.096	3.126	2.000	3.000
	2	51	2.634	.354	.050	2.534	2.734	1.667	3.000
	3	31	2.720	.334	.060	2.598	2.843	2.000	3.000
	4	11	2.576	.539	.163	2.213	2.938	1.333	3.000
	5	7	2.905	.163	.061	2.754	3.055	2.667	3.000
	Total	106	2.670	.372	.036	2.598	2.742	1.333	3.000

Table 39. One way ANOVA statistics

		SS	df	MS	F	p
RA	BG	.803	4	.201	1.146	.340
	WG	17.693	101	.175		
	Total	18.496	105			
EIRM	BG	1.610	4	.402	1.322	.267
	WG	30.739	101	.304		
	Total	32.349	105			
M	BG	1.348	4	.337	2.839	.028
	WG	11.991	101	.119		
	Total	13.340	105			
U	BG	.661	4	.165	.489	.744
	WG	34.099	101	.338		
	Total	34.760	105			
TR	BG	.815	4	.204	1.238	.300
	WG	16.628	101	.165		
	Total	17.443	105			
S	BG	.649	4	.162	1.179	.325
	WG	13.905	101	.138		
	Total	14.555	105			

Table 40. Boniferroni multiple comparison test statistics

One-way analysis of variance					
P value	0.0258				
P value summary	*				
Are means signif. different? (P < 0.05)	Yes				
Number of groups	5				
F	2.900				
R squared	0.1068				
Bartlett's test for equal variances					
Bartlett's statistic (corrected)	9.186				
P value	0.0566				
P value summary	ns				
Do the variances differ signif. (P < 0.05)	No				
ANOVA Table	SS	df	MS		
Treatment (between columns)	1.336	4	0.3340		
Residual (within columns)	11.17	97	0.1152		
Total	12.51	101			
Bonferroni's Multiple Comparison Test	Mean Diff.	t	Significant? P < 0.05?	Summary	95% CI of diff
folk vs pop	0.05400	0.3687	No	ns	-0.3668 to 0.4748
folk vs jazz	0.2880	1.903	No	ns	-0.1468 to 0.7228
folk vs classical	0.05300	0.2807	No	ns	-0.4894 to 0.5954
folk vs ambient	-0.01200	0.06355	No	ns	-0.5544 to 0.5304
pop vs jazz	0.2340	3.028	Yes	*	0.01197 to 0.4560
pop vs classical	-0.001000	0.007312	No	ns	-0.3940 to 0.3920
pop vs ambient	-0.06600	0.4825	No	ns	-0.4590 to 0.3270
jazz vs classical	-0.2350	1.655	No	ns	-0.6430 to 0.1730
jazz vs ambient	-0.3000	2.112	No	ns	-0.7080 to 0.1080
classical vs ambient	-0.06500	0.3583	No	ns	-0.5861 to

5.2.5. Musical preference at work (MURA) x opinion on positive music effect on motivation at work (M)

Summary of ANOVA statistical results upon relationship assessment of the six affirmative musical variables, RA, EIRZ, U, M, TR and S with musical preference at work revealed that participant's musical preference at work is influencing the participant’s opinion on the positive effect of music on motivation at work. Results are pointing to a statistically significant difference at $p<0.05$ for folk, pop, jazz,

classics and ambient music followers at workplace, with all groups having extremely high AM close to 3, except “jazz” population (Tables 41 and 42).

Boniferroni multiple comparison test statistics (Table 43) showed whose group's difference contributed to significant difference seen in ANOVA: difference between pop and jazz musical preference, meaning that jazz followers at workplace have weaker belief in positive music effect on motivation at work.

Table 41. Central tendency and dispersion of variables on musical preference at work

		N	AM	SD	SE	DG CI	GG CI	Min	Max
RA	1	5	2.800	.447	.200	2.245	3.355	2.000	3.000
	2	35	2.543	.456	.077	2.386	2.699	1.500	3.000
	3	17	2.574	.440	.107	2.347	2.800	1.500	3.000
	4	22	2.580	.340	.072	2.429	2.730	1.750	3.000
	5	34	2.551	.388	.067	2.416	2.687	1.500	3.000
	Total	113	2.569	.408	.038	2.493	2.645	1.500	3.000
EIRM	1	5	2.100	.742	.332	1.179	3.021	1.000	3.000
	2	35	2.400	.540	.091	2.215	2.585	1.000	3.000
	3	17	2.412	.667	.162	2.069	2.755	1.000	3.000
	4	22	2.409	.648	.138	2.122	2.696	1.000	3.000
	5	34	2.559	.473	.081	2.394	2.724	1.500	3.000
	Total	113	2.438	.571	.054	2.332	2.545	1.000	3.000
M	1	5	2.900	.224	.100	2.622	3.178	2.500	3.000
	2	35	2.900	.266	.045	2.809	2.991	2.000	3.000
	3	17	2.559	.429	.104	2.338	2.779	2.000	3.000
	4	22	2.705	.504	.107	2.481	2.928	1.500	3.000
	5	34	2.809	.302	.052	2.703	2.914	2.000	3.000
	Total	113	2.783	.371	.035	2.714	2.852	1.500	3.000
U	1	5	2.333	.816	.365	1.320	3.347	1.000	3.000
	2	35	2.257	.595	.100	2.053	2.461	1.333	3.000
	3	17	2.431	.453	.110	2.199	2.664	1.667	3.000
	4	22	2.136	.664	.142	1.842	2.431	1.000	3.000
	5	34	2.216	.568	.097	2.018	2.414	1.333	3.000
	Total	113	2.251	.588	.055	2.141	2.360	1.000	3.000
TR	1	5	2.533	.869	.389	1.454	3.613	1.000	3.000
	2	35	2.590	.388	.066	2.457	2.724	1.667	3.000
	3	17	2.686	.343	.083	2.510	2.863	2.000	3.000
	4	22	2.742	.384	.082	2.572	2.913	1.667	3.000
	5	34	2.637	.437	.075	2.485	2.790	1.333	3.000
	Total	113	2.646	.421	.040	2.568	2.724	1.000	3.000
S	1	5	2.733	.435	.194	2.194	3.273	2.000	3.000
	2	35	2.676	.328	.055	2.563	2.789	2.000	3.000
	3	17	2.667	.354	.086	2.485	2.848	2.000	3.000
	4	22	2.576	.439	.094	2.381	2.770	1.333	3.000
	5	34	2.657	.453	.078	2.499	2.815	1.333	3.000
	Total	113	2.652	.394	.037	2.578	2.725	1.333	3.000

Table 42. One way ANOVA statistics

		SS	df	MS	F	p
RA	BG	.304	4	.076	.447	.774
	WG	18.352	108	.170		
	Total	18.656	112			
EIRM	BG	1.148	4	.287	.875	.481
	WG	35.418	108	.328		
	Total	36.566	112			
M	BG	1.560	4	.390	3.035	.021
	WG	13.878	108	.129		
	Total	15.438	112			
U	BG	.920	4	.230	.656	.624
	WG	37.865	108	.351		
	Total	38.785	112			
TR	BG	.406	4	.102	.564	.689
	WG	19.435	108	.180		
	Total	19.841	112			
S	BG	.186	4	.046	.291	.883
	WG	17.234	108	.160		
	Total	17.420	112			

Table 43. Boniferroni multiple comparison test statistics

Table Analyzed	Data 2				
One-way analysis of variance					
P value	0.0208				
P value summary	*				
Are means signif. different? (P < 0.05)	Yes				
Number of groups	5				
F	3.026				
R squared	0.1008				
Bartlett's test for equal variances					
Bartlett's statistic (corrected)	14.93				
P value	0.0049				
P value summary	**				
Do the variances differ signif. (P < 0.05)	Yes				
ANOVA Table	SS	df	MS		
Treatment (between columns)	1.557	4	0.3893		
Residual (within columns)	13.90	108	0.1287		
Total	15.45	112			
Bonferroni's Multiple Comparison Test	Mean Diff.	t	Significant? P < 0.05?	**Summary**	95% CI of diff
FOLK vs POP	0.0000	0.0000	No	**ns**	-0.4915 to 0.4915
FOLK vs JAZZ	0.3410	1.869	No	**ns**	-0.1820 to 0.8640
FOLK vs CLASSICAL	0.1950	1.097	No	**ns**	-0.3143 to 0.7043
FOLK vs AMBIENTAL	0.09100	0.5297	No	**ns**	-0.4014 to 0.5834
POP vs JAZZ	0.3410	3.216	Yes	*	0.03711 to 0.6449

POP vs CLASSICAL	0.1950	1.998	No	**ns**	-0.08468 to 0.4747
POP vs AMBIENTAL	0.09100	1.054	No	**ns**	-0.1565 to 0.3385
JAZZ vs CLASSICAL	-0.1460	1.260	No	**ns**	-0.4780 to 0.1860
JAZZ vs AMBIENTAL	-0.2500	2.346	No	**ns**	-0.5554 to 0.05535
CLASSICAL vs AMBIENTAL	-0.1040	1.060	No	**ns**	-0.3853 to 0.1773

5.2.6. Age (STA), educational level (STOB), position in the organization (POZI) and years of experience (RAST) x affirmative musical variables: working atmosphere (RA), working efficiency (EIRZ), learning (U), motivation at work (M), teamwork (TR) and stress reduction (S)

Summary of ANOVA statistical results upon relationship assessment of the six affirmative musical variables: working atmosphere (RA), working efficiency (EIRZ), learning (U), motivation at work (M), teamwork (TR) and stress reduction (S) with Age (STA), educational level (STOB), position in the organization (POZI) and years of experience (RAST) revealed that they do not influence participant's opinion on the positive effect of music on working atmosphere, working efficiency, learning process, motivation, team work and stress. All probabilities were greater than 0.05 that was set as a significance level appropriate for the size of the sample under study (126).

6.DISCUSSION

Upon the statistical processing of data, we can conclude that most of the auxiliary hypotheses have been confirmed in their null form.

The group of auxiliary hypotheses related to positive effects of music on working atmosphere, learning, motivation, team work, working efficiency and stress reduction were tested based on the scored and coded answers got to relevant question in a way that arithmetic mean between positive and negative answer was 2.0., so all the results pointing to values above this, are in favour of belief in favour of positive music effects on aforementioned variables.

Auxiliary hypothesis that is listed as No 8 in the section of Methodological background is as follows:

8. Music positively affect working atmosphere.

Majority of participants (AM=2.524; SD=0.437) agreed with the stated assumption that music positively influence the working atmosphere in organisations. Such result corresponds to the results obtained in academic studies conducted in the USA with regard to positive application of music (the segment of background music in service-related business) to the working atmosphere in an organisation (Cebat 2000; Dubé 1995).

This information is important for creators of corporative image since it is reinforced and verified as necessary component of working atmosphere.

9. Music positively affects working efficiency.

Majority of participants do agree with the assumption that music positively affect the efficiency in fulfilment of working tasks (AS=2.385; SD=.601). The obtained result was an expected one and is in compliance with the stated assumption. During the socialist regime in Yugoslavia, music was used as an element for group

identification, which was particularly important for nurturing of political concept of "brotherhood and unity", where amateur groups were singing "hard workers' songs" as a practice in great infrastructural works, the so-called youth labour actions (construction of railways, motorways). Similar principle was noticeable in Serbia in the period after 1999, in the projects aimed at reconstruction of buildings and other infrastructure after the NATO airborne operations "Merciful Angel".

10. Music positively affects the employee's motivation.

Most participants agree with the stated assumption (AS=2.756; SD=.419), and the result is at the same time in accordance with results pertaining to the efficiency in fulfilment of working tasks, taking into account the inseparable element of motivation in the success of business activities implementation. The participants empirically or intuitively recognise generally positive effect of music.

11. Music is reducing a work stress.

Majority of participants agree with the stated assumption (AS=2.627; SD=.443). Stress reduction through music includes a personal micro plan of each manager, where numerous compositions are available for synchronisation of bodily rhythms and tension reduction, according to personal preferences.

12. Music positively affects learning.

Great majority of participants do not agree with the stated assumption that music positively affects learning (AS=2.227; SD=.591).

Due to lack of systematic approach to music in educational system and in organisational practice, the participants had such attitude. Inadequacy of educational curricula, uniformity of thinking, rigidity of participants, are merely some of the elements which could affect disagreement with the stated assumption. This result is indicative from many aspects. In the segment of educational policies, it is necessary

to introduce holistic approach to education for management where music will be represented.

Creation of curricula must not be limited only on university ones, and it should include all levels of education. Curricula in minority languages include the segment of musical art for later creation of intercultural environment together with nurturing of active listening concept.

We adopt new knowledge and skills every day, and therefore, music should be present every day in all its manifestations. Change is a key word, and music in the sphere of learning should take the position it deserves.

13. Music positively affects teamwork.

Participants agree with this assumption to great extent (AS=2.621; SD=.430). Looking into the musical tradition from these regions, vocal-instrumental music corroborates such conclusion (singing in loud voice and bass) (Golemović 1997).

In interpretation segment, music through creation of a joint sound, i.e. interpretation, influences strengthening of relations between the members, which was described in more details in theoretical part. In group performances, active listening is a very important element.

Second part of the discussion section relates to hypotheses that were testing dependency or mutual relationship of variables such as MUPR and MURA 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 MUPR and MURA 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."*

Since $\chi^2 < \chi^2_{(4;0,05)}$ i.e. the obtained value is smaller than the table one (χ^2=5,066 < χ^2=9,488), it can be deemed with probability of 95% that there is no statistically significant dependency between genders in terms of their general musical preferences. This piece of information is closely related to cultural pattern from these regions, as well as to the influence of mass media to creation of musical taste. Bearing in mind the dispersion of samples (Vojvodina, Sandžak, and Belgrade); any further research would require more detailed analysis of musical taste.

Data related to dependency between gender and musical preference at workplace have same trend as this one, so we can conclude that our first auxiliary hypothesis is confirmed:

1. *Genders and musical preferences in general and at work are independent. (POL x MUPR, MURA)*

meaning that whether you are male or female, that won't influence your preference of music in general and at work, which is pretty surprising result, knowing the differences between male and female principles and archetypes mentioned in introduction. This result definitely needs further validation and research in a sense of either bigger sample for improved statistics or employment of more strict method for decreasing of respondent bias in the instrument of the survey.

Now about the study of age influence on MUPR and MURA:

Null H: *"There is NO influence of the age of participants on general musical preferences." (variables are independent)*
Alt H: *"There is an influence of the age of participants on general musical preferences." (variables are dependent)*

Since $\chi^2 < \chi^2_{(4;0,05)}$ i.e. the obtained value is smaller than the table one (χ^2=0,079 < χ^2=9,488), it can be deemed with probability of 95% that there is no statistically significant dependency between participants ages in terms of their general musical preferences. Similar results are obtained for MURA, e.g. we could not reject null hypothesis. Thus auxiliary hypothesis No 2 is confirmed:

2. *There is a NO influence of the age of participants on general musical preferences and musical preferences at workplace. (STA_GR x MUPR, MURA)*

As already stated, Serbia is under a predominant influence of mass media in creation of musical taste, taking into account that over the period of 20 years, music was used for systematic influence on change of collective awareness (turbo folk genre) and for the collapse of citizens class. Mass media were systematically ruining the nation's musical taste over the time of sanctions and civil wars.

Auxiliary hypothesis No 3 was also confirmed in its "null" state:

3. *There is NO influence of the living places on general musical preferences and musical preferences at workplace. (MESTR x MUPR, MURA)*

Since statistical results of MURA and MUPR relationship with MESTR showed their independency. Mobility of population, availability of media (regional and national coverage) creates musical taste to certain extent. Until the allocation of broadcasting frequencies last year, Serbia had been a country with highest number of radio and TV stations in Europe. Unification of musical preferences is a topic for a further sociological research.

The only exception to the trend seen in confirming null and rejecting alternative hypothesis was seen in case of studying educational degree variable in connection with MURA and MUPR (auxiliary hypothesis No 4).

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)*

Since $\chi^2 > \chi^2_{(12;\ 0,\ 05)}$ i.e. the obtained value is higher than the table one (χ^2=27,964 > χ^2=21,026), it can be deemed with 95% of probability that there is a statistical dependency between the educational degree of participants in terms of their general musical preferences. Hence we accept ALTERNATIVE hypothesis which describes the relationship of these two variables as DEPENDENT. Same result was obtained crossing preference at workplace with educational degree. Therefore, auxiliary hypothesis No 4 that was expressed as:

4. *There is an influence of the educational degree on general musical preferences and musical preferences at workplace. (MESTR x MUPR, MURA)*

Musical art makes an integral part of educational system at elementary and secondary level. In addition to the mentioned, such answer is influenced by mass media (the higher the educational degree, the lower the influence of mass media to creation of musical taste is).

Newly composed music was in the 1990s seen as a genre with no place in educational system and prevailing target group were consumers with secondary school degree. Collapsing of social norms and destruction of middle class provided the space for turbo folk as a modified form of newly composed music to promote negative values. At the time, musical taste reflected the way of thinking, so “avoiding listening to” turbo folk were seen as a characteristic of intellectual civil Serbia. As a synonym for the mentioned influence, we can state Pink TV which, together with TV Palma, was famous for broadcasting of this musical genre. Opening of Serbia after the democratic changes in 2000, great number of foreign performers came, which

resulted in the fact that generation born after 1985 has different taste, more corresponding to the taste of generations born before 1975.

The rest of auxiliary hypothesis were all confirmed in null state. The next one tested relationship of business sector with MURA and MUPR.

5. *There is NO influence of the business sectors of participants on their general musical preferences and at workplace. (SEKT x MUPR, MURA)*

Such result at first sight simplifies the creation of musical compilations, but taking into account long-term benefit, business activity influences the choice of compositions. Creation of corporative image is very important in service-related activities, and depending on the service/product, music has different purpose for end-users.

6. *There is NO influence of positions of participants in organisations on their general musical preferences and at workplace. (POZI x MUPR, MURA)*

It is necessary to stress here that there is a dominant organisational culture as an important factor influencing general musical preference. Similar educational level and affiliation to certain local cultural concept leverage a possible discrepancy in terms of preferences.

Multicultural environments which were chosen (Novi Sad, Novi Pazar, Belgrade), familiarity with musical heritage of other ethnical communities are one of the reasons for unification of musical preferences. Therefore, musical compilations do not have to be differentiated according to this criterion.

7. *There is NO influence of participant's work experiences on general musical preferences and at workplace.(RAST x MUPR,MURA)*

This is somewhat surprising data taking into account other academic researches. Musical preferences are generally formed in adolescence period, so that similarity of musical taste can be explained only by giving conformist answers by the participants. Such a result could point to the attitude that participants provided conformal answers with the previous assumption *e.g. greater respondent bias). Such obstacle could be circumvented by posing an auto-detect mechanism for respondent bias. Regarding preference at workplace, we have anticipated that due to corporative culture and image as dominant factors, musical preference at workplace would be influenced by them, but results showed just opposite. It should however continue with further research that would either validate and confirm this result or disapprove it.

Finally, all our results from testing auxiliary hypotheses point to confirmation of the main one:

Applicative music positively affects the creation of proper corporative ambient and application thereof improves competences amongst employees.

According to research results, creation of musical map as an active listening concept imposed itself as an outcome and great result. The starting point for musical map concept is unification of musical taste on one hand, but also positive influence of music on teamwork, and surprising result that participants deem that music does not affect learning and efficiency in fulfilment of working tasks. Such piece of information is alerting for programme creators because of the obvious lack of practice for applicative music as an integral element of business coaching, in order to gain and master new competences.

This implicit pertains to curricula creators and policy makers who should include art and its applicative implementation into all educational levels comprising formal and informal education for management.

Music exists in dominating organisational culture, as well as in the system of values. System of musical compilations in addition to such general tasks influences

motivation of employees' motivation, and stress reduction (by manipulating musical tempo and synchronising them with bodily rhythms).

Intercultural elements are also very important in organisational and multicultural environments taking into account ethnocentrism, prejudice, but also mobility of population in systems with geographically dislocated operational units.

Participants agree that music has positive influence on corporative ambient, because they agree that music positively affect teamwork, but in they have not recognised its application in the learning segment.

Change related to music perception with respect to learning requires a construction in applicative sense presented in a musical map, but at the same time it requires change in the segment of academic education for management, training concept in the area of human resources, but also deeper involvement of musical pedagogues who can recognise human resources as their area of action in addition to classical instructing. A systematic approach to the mentioned problems in economically poor country as Serbia will bring the desired benefit, bearing in mind that human capital is what actually makes an organisation competitive in global market in which Serbia is trying to participate.

The final outcome of this PhD thesis is embodied in the musical map. 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.).

The research results impose *inter alia* the future research of its practical applicability in various geographic-cultural environments, as well as further introduction to rhythmic-melodic-harmony properties of other cultural-geographic areas.

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.

In the area of pedagogy, musical map can be seen in the light of scientific thought of social constructivism. Cooperative adoption of knowledge in the context of music applicability contextualizes the role of interlocutor in wider cultural – social map Indiviudal experience of a person affects analysis of own perception of reality shifting the focus of the study. Mutual interaction within the adoption of new knowledge is indirectly applied to the context of music applicability through the zone of further development (Milutovic 2011). Researchers in this field have the option to research various genres in the process of knowledge adoption.

Understanding of musical experience is the point where musical psychology, musicology, management and cultural anthropology, meet. Applicative music has become possible only when music won the area of symbolic tools through singing, opera and programme music. Nietzsche's notion of musical order is linear, conceptualised based on musical psychologism (Moravski 1974). Taking into account that the material is already a ghost, music dialectic moves from the subjective to objective pole and vice versa. Music belongs to the domains of implicit and explicit culture, therefore progress in terms of music in its dimensional manifestations imposes intuition as a beginning, and as an insight representing at the same time a goal, as well as a manner and path towards the realization in the objective-subjective sphere. Culture has an element of history within itself, since it contains distinctiveness.

It has an ethical component emphasized by Plato and whilst recognizing the moral character of harmony and rhythm and encompassing contain a dialectic of finite and infinite. Within the music quantum, harmony represents a cohesive element of division and unification whilst immanently containing the qualitative structure. Music has a communicative component whilst expressing human affects via sound.

The 21st century is the era of the group idea whereas any intervention is under strict control of the form and procedure. Music remains an area for creative expressing and a shield before the concept of the conformist group which believes and listens to corporative and political ideologists. Ideology creates a group fund and individualism of opinion cannot find a way to express itself. The duality contained in music as a form of art and a skill hampers the positioning of the applicative music with regard to ideology. Music experience interprets the sound moving form, which represents an emanation of the creator in terms of their activities. Experience guides the music sense to the end where music idea becomes an existential conceptual form. Through its symbolism as part of art which is a fundamental form of understanding according to Ernst Kasier (Uzelac 2008), music requires a holistic approach and creation of an organic entirety. Symbolic forms create music experience whilst providing form and sense.

Nowadays it is clear that globalisation has levelled social layers. Rise of lower social layers causes that a whole complex of elementary musical phenomena is changed. Music nowadays is the mirror of social and political circumstances.

The idea of social equality as "idea for everyone" does not have to be proved in the art of 21st century, since it has found its place in governing regimes' policies. The words uttered by enlightened people of nowadays show us that this idea still has not been implemented completely. This gives two capital consequences for the future development of applicative music. Popular art gets certain rights and succeeds in remaining on the margins of formal art. The second consequence is strengthened impact of semi-professionals, dilatants and amateurs.

The music 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, as it has been pointed out in the Introduction.

It would be somewhat pretentious to analyse and create the music map in another region, hence the concept of the music map encompasses analysing 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.

Rhythmic particularities encompass the use of complementary rhythms typical of Southern Serbia, Macedonia and Bulgaria in 7/8, 8/8,9/8 and other varieties in different combinations, as well as particularities of the ornamentation (affecting the rhythmic pulsation) in Bosnia and Serbia on the basis of the Ottoman heritage of the sevdalinka as a form, all the way to the use of specific scales (musical tradition in the territory of Kosovo and Metohia, familiar only with the use of the natural moll, which adds an archaic note to it), particularities of religious services in this region (on the basis of the Bosnian Mekam and Orthodox Octoechos) and all the way to belonging to the same language group (Serbian, Bulgarian, Croatian, Macedonian, Montenegrin, Bosnian and their mutual Byzantine and Ottoman traditions).

The music map is not a prefabricated list and is hence susceptible to modifications. For the purpose of understanding the principle there has been no unification on the basis of influence on certain areas or competencies, but we rather implemented the genre-based approach, division within the traditional, artistic, pop, folk and ambient music in this instance.

The music map represents a sort of a journey towards the improvement of our competencies and whilst abiding by the coaching principle it is thus a sketch of a holistic music concept for the coach, creator and managers both within an organization and in their private lives.

Slobodan Trkulja – *"Prizivanje kiše"*

http://www.youtube.com/watch?v=HBxK3gsjCCc

Bosniak ilahi: Arabeske & Zabranjeno pušenje - *"Kad procvatu behari"*

http://www.youtube.com/watch?v=SO3ry59tqqM

Johan Sebastian Bach/Ivo Pogorelić - English suite n.2 - Preludium

http://www.youtube.com/watch?v=Zj_vw17u7_s

Yo-Yo Ma: Ser John Tavener -"The Protecting Veil" for cello and orchestra

http://www.youtube.com/watch?v=p9Sct2Ev0PI

Aleksa Šantić , Jadranka Stojaković/Amira Medunjanjin "Što te nema"

https://www.youtube.com/watch?v=ZFt6brS9MpE

Divna Ljubojević - „Hristos Anesti" (Christ is Risen)

http://www.youtube.com/watch?v=Y7tKexc4wSM

Željko Joksimović, Tavitjan Brothers and Garo – Macedonian traditional song *"Oj devojče, devojče"*

http://www.youtube.com/watch?v=YxeMqlAIRT4

Bilja Krstić - Traditional Vlach folk song *"M-a făcut muma frumoasă"*

http://www.youtube.com/watch?v=uDq1nr2FkOg

Slobodan Trkulja: Traditional Serbian song from Kosmet – *"Zaspo Janko pod jablanom"*

http://www.youtube.com/watch?v=7WhnRXMzTMg&feature=related

Vasilije Mokranjac – *Etude n.4*

http://www.youtube.com/watch?v=ubtrfEPbAk8

Fazıl Say, piano - Traditional Balkan song *"Üsküdara gider iken"/"Ruse kose curo imaš"/"Anadolka"*

http://www.youtube.com/watch?v=KAl9IJ2H7X4

Marko Tajčević - 4 duhovna stiha - *„Vospoite"*

http://www.youtube.com/watch?v=II6ygnyGeaQ

Mizar - „Devojka od bronza"

http://www.youtube.com/watch?v=UTlZJ5GuRUo

Lena Kovačević - Traditional Serbian folk song *„Gora"*

http://www.youtube.com/watch?v=2jkQVhIfmgI

Verica/Marija Šerifović - „Ne dam bolu da me slomi"

http://www.youtube.com/watch?v=6KUEDD0jpZA

Šaban Bajramović and Josipa Lisac -„Đelem, đelem"

http://www.youtube.com/watch?v=k4DU4NekdfU

Traditional „Izgubljeno jagnje" by Fejat Sejdić

https://www.youtube.com/watch?v=RdGLq1j002Y

Sanja Ilić and Balkanika -"Dolina suza"

http://www.youtube.com/watch?v=yT2tYWI3xig

7. CONCLUSIONS

Summarizing results of the empirical and theoretical research of thesis brought next conclusions:

1. Research sample of working people was enough large to create pilot scale of Serbian musical map model as evidenced from statistical calculations.
2. Majority of elements important for efficiency at work was covered in this model of musical map that HR and other relevant mangers could use to increase organisational efficiency and improve its image. Of course further work is required to make fine tuning of the elements covered as well as to include any extra if showed necessary upon its employment in real business milieu.
3. Some of the data generated are in accordance with literature, such as those regarding the positive influence of music on reduction of stress at work, learning process and working efficiency, while majority of other data such as musical preferences at workplace and in general that constitute an integral part of Serbian music map is unique and novel and thus cannot be compared with literature data.
4. Among those unique data regarding musical preferences, the surprising information is that the degree of education influences manager's and employees' both musical preferences, general and at workplace, while other sociodemographic cardinal variables such as age, gender, position, place of living does not influence musical preference! Up to my best knowledge there are no similar investigations in this area, with which we could relate our data. It is however, very intriguing and deserves further validation and clarification.
5. The process of map creation and utilization is not restricted to Serbian business market. It can be applied to any country and culture in order to improve business efficiency via HR manager's training and implementation

of this method in corporative and organisational frame. However obtaining valid musical map requires professional people and correspondent funding.

The scientific significance of the thesis results lays in how managers could improve expression of their personalities, how to motivate themselves and their associates, how to accomplish their personal and organisational goals and how to improve interpersonal relations in their working environment. These results if employed could change the attitudes of managers with respect to applicability of music to their working environment, business coaching and how much they appreciate music in general. The Musical Map, as a result of this Thesis, should enable coachers and human resources professionals to perceive faster and in different view the problems their clients face, at the same time becoming more creative in their professional work. Stressing the concept of difference enables easier subsequent upgrade of the existing competences, at the same time globally encompassing future programmes in the area of human resources.

Music has only the assimilation and permanent change, so certain continuity can be established between music and management only to the extent our knowledge allows.

From the perspective of history, a circle has been made whereas music becomes interactive in its interpretation of the relation towards the listener. The music expression is a type of holistic communication between the author and interpreter from the one, and the listener from the other side. Such a three-sided relationship requires adjusting of all individual maps and consideration of active listening as an important element which includes the listener into such a music undertaking.

Globalisation has covered music as well, so musical heritage regardless of its geographic origins, has become a source for applicability of music at workplace. This thesis has provided platform for musical map implementation into this business area, tackling working atmosphere and business efficiency increase, as its top priority.

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