

[*Does Music Matter?*]

C02 Project: A New Possible Way to Educate the Emotions to Fight Social e Psychological Distress Conditions

Abstract: Can the listening of instrumental music be used as a tool to treat social and psychological distress? This short paper suggests a positive answer to this question using specific protocol and providing the correct support on music listening. We report principal results of a three years experimental project, named CO2 (acronym for “hate control” in Italian language), realized in four prison in Italy. The experimental protocol was composed in several action, but we can summarize it in three main action: 1) creation of an hardware platform and audiotheque to make possible the listening to music for detainees included in the projects, 2) specific course to teach the correct way to listen to music conducted by top professional musician, 3) administration of standardized questionnaire at the end of every session of listening, psychological individual and group observation, collection of qualitative documents of listening’s evaluation written by detainees. At the end of experimental period we can point out some important changes in behavior of detainees includes in particular in terms of communication ability and self-assessment of their emotive status. This could represents a very useful asset for usual re-educative paths offering a new tool and helping to treat the emotional sphere of distress.

Keywords: Music, Distress Social, Sociology of Music, Psychology of Music, Prisons.

The first leading idea of CO2 project is that a correct listening of music can create an evolution within inner emotional sphere of listeners, increasing consciousness of distress conditions and helping to find support (Mussida, 2013). In this perspective music it is not only a cultural product for specific public, but it becomes a tool to investigate psychological conditions of specific subjects and to identify possible path to solve situation caused by distress. This is the main hypothesis of an action research promoted by CPM - Centro Professione Musica, a music institute of Milan, in collaboration with University of Pavia. To evaluate this hypothesis, the research group, composed by psychologist, sociologist and musicians, under the direction of Franco Mussida (musician and artist, CO2 project creator) has conducted an experimental design administrating a specific protocol of music listening to a sample of subject in four Italian prisons. Within prisons, because of the condition of captivity itself, there is an extreme condition of social and psychological distress.

Very often in social sciences, music was considered a research object in terms of cultural production or because of its possible relations of music with economical, social and political transformations (Savonardo 2010). It is not so often investigated the direct relations between music and emotional subjective condition because of the obvious difficulty to measure this aspect. Some studies in social psychology and in cognitive sciences had investigated the reaction of small experimental group consequent to session of common listening. CO2 project has the explicit aim to gather information on possible use of over sighted music listening as a tool for the treatment of condition of social and psychological distress. For this reason the project carry out specific hypotheses on the relation between music listening within a specific educational path and the more general treatment tools available in common re-educative methodology within prisons. It makes some substantial difference from Music Therapy (MT) approach because the idea of therapeutic tools, especially in the most current definition in MT’s literature, is quite different than a mere re-educative instruments. The idea in MT’s approach is that music can influence positive condition

both in a physical and psychological sense (Manarolo 2009; Cavallari and Cavallari 2013). We limit our hypothesis of work to the use of music in the second dimension as a communicative tool teaching to the subject new way to create contacts with other persons, but also to increase the self consciousness and to feed a process of inner self-communication and self-evaluation.

The experimental design was focused on the possibility for ten subjects within each prison, to have access on an audiotheque of hundreds of instrumental music pieces and songs. This access was over sighted thanks to specific software architecture with the utilization of a net of iPads with a central hardware server in each prison. The research group, in cooperation with the educators' team within each prison, has identified all the participants to the experimental period, building the experimental sample. The project team have implemented several actions according to the protocol: period of two hours of free listening in a dedicated room within the prison using iPads, weekly lessons with professional musicians, periodical sessions of common listening and relative discussions among participants and musicians. As we will explain in the following paragraph, the research group has also provided specific tools to monitoring the evolutions of the psychological conditions and social behavior of all the participants to the project, using quantitative questionnaires, but also in depth interviews and psychological observations. The analysis of this very complex empirical material is now at the very beginning, but we think that it can be interesting, after the first presentation of the results of this experimental project in Pavia during the recent conference *The hidden keys of Music/Le chiavi nascoste della musica. La Musica come elemento trattamentale nel contesto carcerario*¹, to highlights with this paper some of them.

Some general results of the investigation

Undoubtedly, the first meaningful data which can be used to evaluate the detainees' acceptance of the project are represented by their participation to the classes they were invited to. During the triennium of our experimentation, the detainees of all four of the penitentiaries involved in the project have been proposed over 150 hours of lessons with professional musicians. In a majority of cases, their participation was widespread and continuous. Before commenting the data, it should be pointed out that the experimental groups were made up of 10 subjects, excluding a certain turnover due to the natural dynamics of the detention. During 3 years, some of the subjects who took part to the experimentation had custodial sentence benefits like probation, some were moved to other penitentiaries, some finished their period of detention. Therefore, we estimated their attendance to the classes according to the estimated period of exposure to the experimentation. Data tell us that more than half of the detainees attended more than two thirds of the classes, and 20% of them attended more than 80%. Moreover, in all the penitentiaries' groups there were subjects that showed a natural leadership, which emerged also thanks to their personal commitment to the experimentation. It is the case for one or two detainees for each penitentiary, who attended all the classes and also scored a very high number of plays so they were recognized as top listeners. A small group of detainees, a minority, participated less: just four of them scored less than 50% of attendance.

Another important aspect that should be considered to evaluate the adhesion of the subjects to the experimental protocol is the quantity of their plays. Detainees, besides the compulsory activities assigned by their teachers, were given the chance to make some free listening activities, which can be seen as part of the indicators of the level of individual adhesion to the project. All the plays, even the free ones, could be done only by answering a brief questionnaire evaluating listeners' appreciation. Therefore, they required detainees to be willing to follow the protocol. At this point, another information should be considered: the experimentation has been characterized by two distinct periods that can be clearly identified on the basis of the presence of two different releases of the software that managed the music library platform. During the first phase, which was mainly dedicated to the tuning of the instruments, the post-listening questionnaires had not been developed in the software yet, so some evaluative information are only available as qualitative data. In the new release, instead, all the information about the post-listening questionnaire were linked to the plays, and this allows a more in-depth analysis.

¹ More informations about at: <http://www.co2musicaincarcere.it/il-convegno/>

In the first phase, which lasted 10 months, the detainees heard more than 4000 tracks collected in the platform. In this phase, however, not all the plays were directly traceable, so this number should be interpreted as indicative. In the second phase, with the new software available, the tracks recorded in the platform more than tripled. They were approximately 15000 (14874 overall), more or less distributed in the four penitentiaries, with the exception of the women's penitentiary in Rome, which shows an average listening time that decreased in the last period (see table 1), also considering a summer period when the Opera (Milan)'s music library was open. The evaluated plays of all the experimental groups are 9937, with an average of 700 plays per month, for a total of 50 hours per months of plays that could be evaluated.

Table 1 : Distribution of the plays in the 4 penitentiaries per quarter of year

	INSTITUTE					Total
		1 Monza (Milan)	2 Rebibbia women (Rome)	3 Opera (Milan)	4 Secondigliano (Naples)	
Quarter in the second phase	1	21.20%	27.10%	22.30%	20.70%	22.83%
	2	22.80%	27.60%	21.80%	24.30%	23.63%
	3	23.70%	25.90%	26.50%	29.70%	25.95%
	4	32.30%	19.40%	29.40%	26.30%	27.60%
Total		100,00%	100,00%	100,00%	100,00%	100,00%

In the three males' penitentiaries we observed similar dynamics: as the project proceeded, the group's plays grew, with a rate of +10% each month. The slow inflection of the last quarter at Secondigliano (Naples) is probably due to problems of availability of rooms. In the women's penitentiary some problems of management, completely internal to the institute, together with the end of the detention of the charismatic leader of the experimental group, led to a significant flexion in the last months of investigation. Some observations on the structuring in the listening time can be made according to some social composition features of the sample. Both in the first phase and in the first months of the second phase the detainees with a higher level of education (at least a high school diploma) showed a higher number of plays, almost 25% more than the other detainees. In the case of the penitentiary of Monza, this difference touched the 32% of variance during the first months. As the project went on, however, the differences still existed, but were noticeably reduced and in the last quarter data showed a variance of almost 15% more in favor of the most educated detainees. This reduction shows that the educational process under this experimentation gradually reduced cultural barriers, offering an occasion of growth and commitment that involved more and more also the less cognitively equipped subjects.

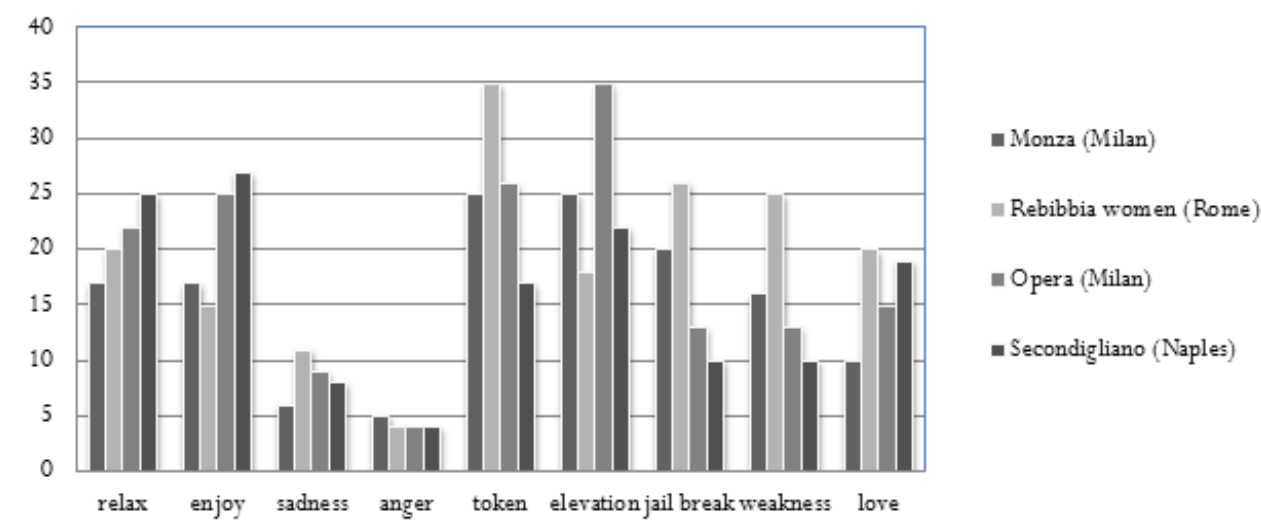
Reactions to the listening?

The most listened genres are two, and this revealed a certain bimodality: they are soundtracks and pop (in its variety), respectively with 21% and 17% of the preferences. Of course, these are average measures referred to the group and there are also different individual preferences which are clear-cut in many free-listening styles. However, it is quite telling that during the experimentation in all the four penitentiaries the (uninterrupted) listening of classic music has grown. Moreover, it is important to notice that the percentage of interruptions (calculated through a specific process of normalization of the esteem based on the time between one listening and the following) has decreased by over one third (-36,2%) in the second phase of the experimentation, in comparison with the first one.

Other differences emerged in the detainees' formulation of their judgements about the tracks they listened to. In the evaluation structure the participants indicated which consequences the listening had on their emotional state. In the graphic 1 we reported the percentage incidence of the answers they gave during the experimentation.

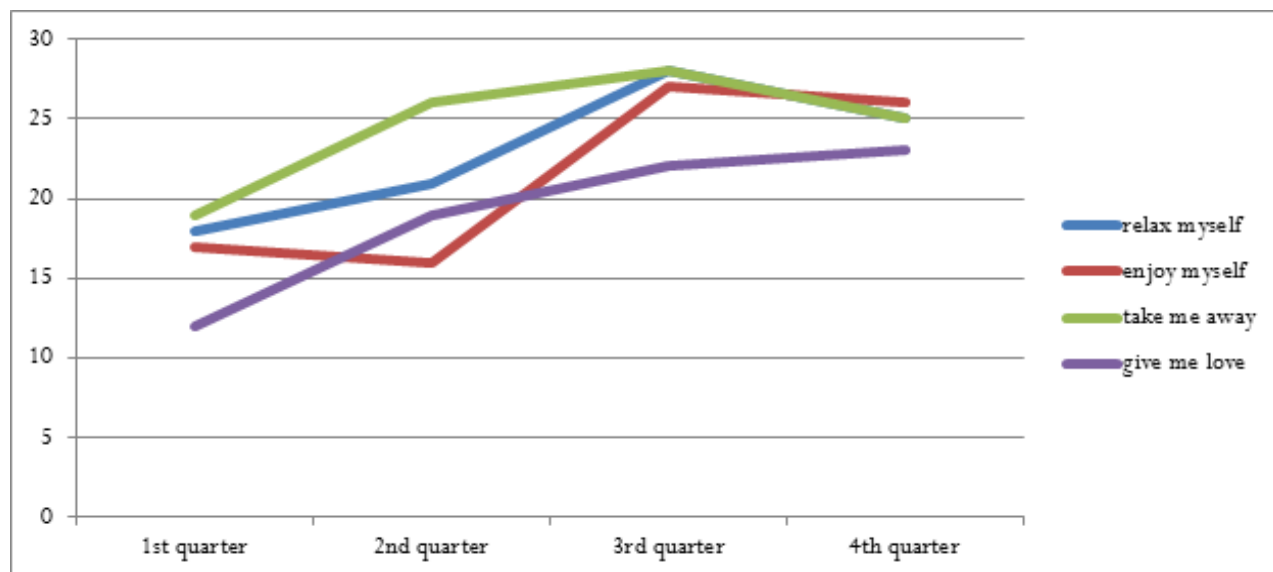
Since it was a multiple choice question (the detainees could indicate more than one emotional state after each play), the percentage are to be considered as aggregate with respect to the total number of plays.

Graphic 1: Emotional states perceived after the listenings



Having a look at the data, you can notice that negative feelings such as irritation and the worsening of the mood are the minority in all the penitentiaries. Avoiding not statistically significant micro-variations, the tendencies confirm similar patterns in the four penitentiaries. The most significant clusters of emotional states are two: better mood (relaxes, makes happy, gives love, enriches) and a state more referred to the area of melancholy and desire to go away (it takes me far away, it takes me back to the past).

Graphic 2: Evolution of some emotional statuses perceived after listening



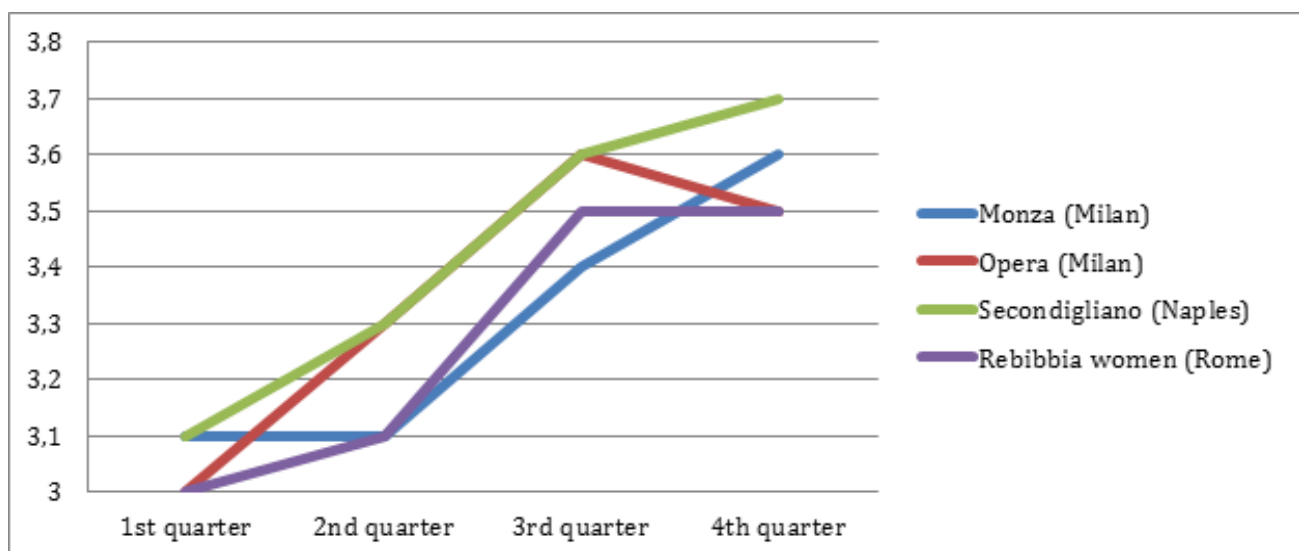
Therefore, the double role of the experimentation in encouraging the detainees' reflection on their condition and giving importance to their desire of going back and explore the dimension of the free space around them is clear-cut. At the same time, listening defines a general improvement of the status of frustration declared by them and therefore it gives a support to the reduction of pain due to the condition of reclusion. Again, important data are given by the evolution dynamics in time. During the last two quarters of experimentation some answers about the

detainees' emotional statuses have systematically grown their relative incidence. It is demonstrated by the developmental esteems reported below². As you can see, they concern the group of emotional statuses that define a positive transformation of the subjective mood, and also, significantly, the one that recalls the dimension of escape from the actual situation, in search of freedom through music, that narrates imaginary sceneries.

The appreciations of listening experience

The general rate of appreciation of the listening has shown a meaningful evolution in all the institutions, too. The subjects were asked to evaluate their general appreciation of the song. This evaluation has been measured on the basis of two answers graduated on a scale from 1 to 5. The following graphic shows the positive evolution of their appreciation (also in this case, we refer to the second part of the study, which data seem more complete and strengthened after a first phase dedicated to the test of the methodological instruments). As graphic 3 shows, it is a positive evolution contained in the variance of 0,5 average points, but in any case it is meaningful for two reasons: it shows more or less the same trend in all the penitentiaries and it seems in constant growth. On the one hand, this is a general function of the detainees' appreciation of this experience on the whole. On the other hand, it is a function of their increased ability to intercept and understand the tracks in their specificities, making them dialogue with their own sensitivity in a more aware and proactive way.

Graphic 3: Evolution in time of the level of appreciation



Furthermore, other indexes move in this sense. For example, in time, the listeners' individual capacity of lingering on the technical requirements of the track's composition has grown. In the last two quarters the

² Such esteems have been calculated on the basis of an iterative algorithm that interpolates individual answers with the general features of the group, to take under control the environmental conditions.

percentage incidence of this kind of variation grows, with a meaningful maximum point in the last quarter (+11% with respect to the first quarter). This evolution in the technical capacity of listening seems a bit more marked in the two penitentiaries of Milan, where the incidence differential of signal on the kind of composition in the last quarter with respect to the first one is +16% on average³. Another note should be signaled, considering that all the tendencies that have been explored are statistically correlated with the attendance to the classes and the whole rate of individual plays. In other words, the more a subject made efforts in free or guided activities, the more his/her growth has been remarkable and visible. Furthermore, these quantitative data are confirmed by the qualitative analysis of the post-guided listening forms and by the relations of the teachers who predisposed the project activities and by both individual and group observations. The group of top listeners has always shown a very high attendance rate (as already mentioned above), but it has also showed the most significant progresses for all the indexes taken into consideration.

However, while we talked about the benefits of this experimentation using relevant indexes to evaluate subjects' individual growth in the groups, we can now invert the perspective and use their own declarations to test some foundation hypothesis of this project. The subjects were asked to evaluate the consonance of the tracks they listened to with the emotional status to which every track is associated in our database. In this way, they judged the correct classification of the music library. The result is reassuring in all the institutes and substantially stable in time. Within a scale from 1 to 5, the median consensus to the congruence between the stated emotional status and the one perceived during the listening is around 4 (average 3,78). A further confirmation is that also in guided plays, which were the same for all the subjects, the rate of convergence of evaluations among detainees of different jails seems particularly high, with a correlation of over than 70% (0,736)⁴.

Other and more detailed analyses will be presented in other occasions. The investigation of the particularly rich source of data that we have available is still in course, since the project of information retrieving is still active. However, it is still possible to trace some general conclusion from these tendencies. It seems undeniable that data support the thesis that this study has offered detainees an experience of personal growth, and also a meaningful support to relieve their frustration and the pain that is inevitably linked to the experience of detention. Data also support the thesis of an increased individual emotional awareness, transmitted by a better capacity of listening to their emotions, thanks to the guided listening of the music. In the end, data seem to support two cornerstones of this experimentation: 1) the database classification of the tracks in the respective emotional areas seems to be confirmed and 2) the collective listening of tracks, despite the differences among listeners' temperaments, amounts to objective elements which are identical or comparable in the experience of each individual.

References

- Mussida F. (2013), *La musica Ignorata*, Milano: Skira edizioni.
- Cavallari L., Cavallari M. (2013), *Suono, musica, musicoterapia*, Roma: Bordeaux Edizioni.
- Ezzu A., Messaglia R (2006), *Introduzione alla Musicoterapia*, Torino: Musica Practica.
- Manarolo G. (2009), *Psicologia della musica e musicoterapia*, Torino: Edizioni Cosmopolis.
- Savonardo R (2010), *Sociologia della musica. La costruzione sociale del suono, dalle tribù al digitale*, Novara: UTET Università - De Agostini Scuola.

³ The percentages of growth have been calculated on two groups, weighted on the individual exposure to the experimentation to avoid the introduction of bias linked to the heterogeneity of turnover, which was not controlled.

⁴ It was calculated applying an average coefficient of linear correlation generalized to the different collective listening sessions, with statistic significativity of 5%.