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## Music therapy in adolescent disruptive behaviour

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### Abstract

This research analyses the benefits of Music in the improvement of emotional intelligence, behaviour and school performance through an experience with a 4<sup>o</sup> ESO (the Spanish equivalent to England’s Year 11) student group. Due to the impossibility of developing the educational work successfully, it was decided to put in practice a new model of work, designed combining knowledge of musical pedagogy, music therapy and emotional intelligence. For its development, different diagnostic instruments have been used in order to, once the results were obtained, redesign the work methodology in music class, and check the improvements in the parameters previously mentioned.

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*Keywords:* Music, ICT, emotional intelligence, academic performance.

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### 1. Introduction

The educative and therapeutic values of Music are known since ancient times, but it is especially in the 20<sup>th</sup> century when more rigorous researches start to be done, and they become a great contribution to music pedagogy and have turned around the way to understand its didactics. There are different modalities of intervention through music. One of them is with creative and artistic therapies. Art therapists provide the patient an environment based on a pleasant atmosphere which aim is the development of a symbolic language which may allow the access to unknown feelings and a creative integration of those in one’s personality, making the therapeutic change possible (Dokter, 1995).

During the past few decades, there have been important researches within scientific and educative literature by recognised and prestigious authors such as Dalcroze (1970), Hemsy de Gainza (2002a, b), Rusinek (2004), Swanwick (1997), Tomatis (1991), Toscano Fuentes & Fonseca Mora (2012), Vallés Arándiga (2003) and Willems (1970, 1979, 1981) amongst others, which dedicate part of their work to a search for innovative answers to

different moments of the evolutionary development of the students throughout their academic training, as well as different ways to improve the teaching through Music. Along these lines, Zoltán Kodály (in *Forrai, Friss et al.* 1981), develops one of the first rigorous researches that proves the scopes where music study has a positive influence. Campbell (1998) and Levitin (2008, 2011), continue and complete the study proving that, if working with Music in the appropriate way, the brain produces a fastened, meaningful learning, while easing socialization between beings and modifying one's mood. According to Pérez Aldeguer & Leganés Lavall, (2012) “musical experience activates imagination and creativity, building the foundation from which the processes of cognition, perception, attention, memory, intelligence, thinking and language actuate”.

We agree with Pascual Mejía (2006) and Pérez Aldeguer & Leganés Lavall (2012) affirming that Music can be the basis to reach all of the objectives, contents and activities of the teaching-learning process that take place at school, which is the reason that makes the docent's role so important, since judging by Díaz Gómez (2012), what matters the most is how to carry on the educative process.

Nevertheless, despite Music benefits being fully proved, as Díaz Gómez (2002) exposes, the mandatory music education history in Spain is not exactly extensive, not having been included in general education until 1970. Since that time it has suffered ups and downs caused by the different Education reforms, never reaching the same status as other subjects so-called instrumentals, specially language or mathematics; subjects which concepts can be developed in a really significant way through an active and participative musical education.

Throughout this research, the Emotional Intelligence (E.I.) of a group of students and their Intelligent Quotient (I.Q.) are analysed, and innovative guidelines and strategies of work to carry out in Music class are designed, supported by the use of ICT. The aim is to improve emotional competence and consequently academic performance. To accomplish the initial valuation of the student group, Dr. Gallego's test has been applied, elaborated as a result of a broad, rigorous research fruit of which the book *Implicaciones educativas de la Inteligencia Emocional* was born (Gallego, Alonso, Cruz & Lizama, 1999).

## 2. Methodology

### 2.1. Participants

The investigation is made in a group of 7 students (6 of which were repeaters) of 4º ESO demotivated and with disruptive behaviours.

### 2.2. General objectives of the investigation

The main objective of this research is to analyse what is the starting point or profile of this student group of 4º ESO (their lacks, limitations, deficits, difficulties, motivations...) and try to find out if it is possible to improve their behaviour and therefore their academic performance through a different, innovative methodology, combining music benefits with new technologies and working with emotional intelligence.

### 2.3. Instruments and Procedure

All of the diagnostic instruments related to E.I. are taken from the book *Implicaciones Educativas de la Inteligencia Emocional* (Gallego et al. 1999). To evaluate rational intelligence, the Factor G ES – 2- A C.I.D test has been used.

The procedure carried out was the following:

- An exhaustive diagnosis is done for each student, which starts with a report made by the Department of Orientation and an analysis through different tests (both for E.I. and I.Q.), aiming to find out the most relevant aspects of the students that could possibly affect or cause the disruptive behaviour.
- A pedagogic-musical methodology is designed to approach the detected problems.
- E.I. tests are applied again in order to check if the attitudes and conducts were modified.

- The evolution of the academic performance is analysed.
- The first tests are taken in September and the second ones at the end of May, after having presented the students a brand new vision of musical learning, through active experience of discoveries and reflexions, making activities and living the learning as a progressive, fun, formative experience.

2.4. Results of the analysis of the first tests

The results of the I.Q. tests indicate that the rational intelligence is within the average limits in all of the students, except one.

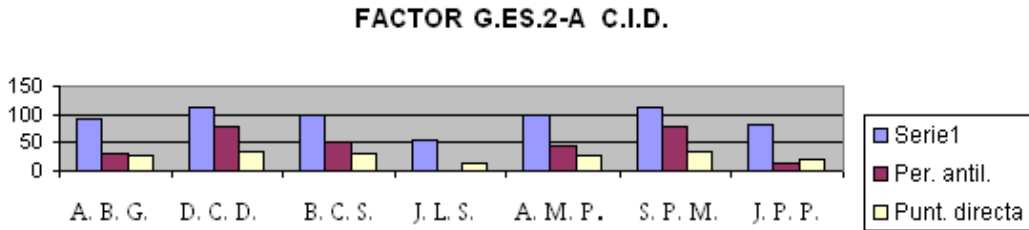


Fig. 1: Factor G ES – 2- A C.I.D. test results

Nevertheless, the emotional intelligence of all of the group members is low, as they have a shortage of basic social abilities to establish group relations, they do not know how to behave in the classroom and their behaviours are disruptive or excessively inhibited; they lack empathy so they are not able to recognise the moods or needs of their group mates, and they have low self-esteem.

Table 1. E.I., Self-motivation and Self-concept results, respectively

	E.I.	Self-motivation	Self-concept
A. B. G.	50/120	4/14	11/19
D. C. D.	40/120	3/14	3/19
B. C. S.	40/120	3/14	4/19
J. L. S.	30/120	4/14	4/19
A. M. P.	50/120	4/14	16/19
S. P. M.	80/120	9/14	12/19
J. P. P.	50/120	4/14	6/19

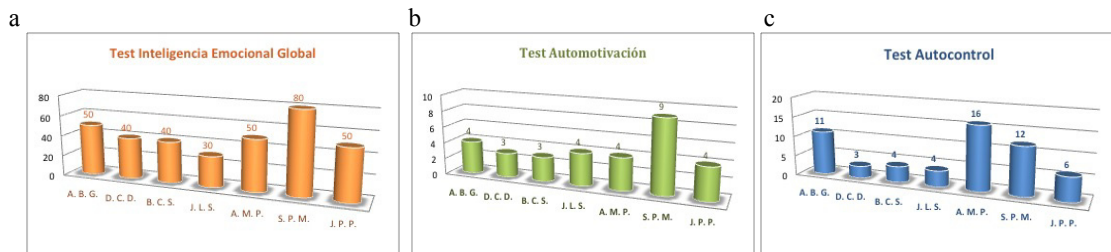


Fig.2: (a) E.I.,(b) Self-motivation and (c) Self-concept results, respectively

Table 2. Initial academic qualifications

	Subjects	E	D	C	B	A
A. B. G.	11	5	2	2	2	0
D. C. D.	11	6	3	2	0	0
B. C. S.	11	8	2	0	1	0
J. L. S.	11	10	0	1	0	0
A. M. P.	11	9	1	0	1	0
S. P. M.	11	0	3	4	3	1
J. P. P.	11	9	2	0	0	0

### 2.5. Development of the used method

Since the students presented an antisocial behaviour, lacked interest for learning, and their knowledge of the course was very limited, it was estimated to restructure the work methodology, taking an investigation about the thinking of ESO students (Giné, 1997) as a reference. In their favour it must be said that students recognised the necessity to learn, but they demanded motivating contents. Attending to the researches by Güell Barceló & Muñoz Redon (2003), they demand to be respected, listened to and taken into consideration.

In this sense, *Teoría de la Motivación por Metas de Aprendizaje* (Alonso, 1998) maintains that pupils deal with the demands of scholar activity depending on the learning aim that each one of them has settled in advance.

Also, Bray (2000) makes a research about the perspective that students have about the kind of music that is used in the classroom, coming to two important conclusions: the first one is that the course does not cover the necessities or the interests of pupils in a sufficient way and the second one affirms that Music course is perceived as an unimportant one in their academic life. On the other hand, there is a general complaint from the students about the contents worked on in Music course; they allege that the subject basically serves to acquire knowledge about History of Music while they demand an adaptation to the kind of music that they actually like and more time for instrumental practice. Taking all of this into account, the work in the classroom was redrawn as of the methodologies of Dalcroze (1970), Orff (in Sanuy & Sarmiento, 1969), Willems (1970, 1979, 1981) and Wuytack (1970, 1996).

In view of the previously mentioned and with the intention of motivating the students, new technologies were used at the time of treating the contents of the course. Browsing different websites was a good excuse to approach the subject. Next an educative game was created (“Musichao, juego educativo musical”) to use on the computer and guide them to a world which was unknown and new for them in a ludic way, as well as approximate them to the subject contents. This game is a teaching unit in a digital format through which students can acquire the skills and knowledge needed according to the 4° ESO curriculum, with the help of a methodology which is eminently practical and participative. It has a double function: on one hand it is motivating, turning into a good strategy to achieve the initial aim and on the other hand they learn Music.

### 3. Results of the second tests carried out after applying the methodology

After applying the designed methodology, the tests were applied again to check if there had really been any improvements in the previously mentioned parameters. The obtained results were as following:

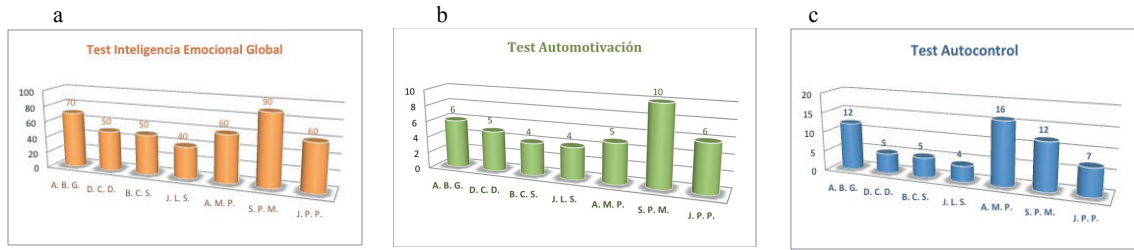


Fig. 3: (a) E.I., (b) self-motivation and (c) self-concept results after applying the method

Table 3. E.I., self-motivation and self-concept results after applying the method

	E.I.	Self-motivation	Self-concept
A. B. G.	70/120	6/14	12/19
D. C. D.	50/120	5/14	5/19
B. C. S.	50/120	4/14	5/19
J. L. S.	40/120	4/14	4/19
A. M. P.	60/120	5/14	16/19
S. P. M.	90/120	10/14	12/19
J. P. P.	60/120	6/14	7/19

- The 7 of them improved their self-esteem.
- A better integration of the whole group was achieved, as well as a reduction of the conflicts.
- The 7 of them developed their motivation in every field.
- The group finally managed to work as a group.
- They started to show more tolerant attitudes.
- They took part in activities in front of a public.

Table 4. Final qualifications

	Subjects	E	D	C	B	A
A. B. G.	11	1	5	1	3	1
D. C. D.	11	1	5	3	2	0
B. C. S.	11	6	1	3	1	0
J. L. S.	11	7	1	3	0	0
A. M. P.	11	6	1	3	1	0
S. P. M.	11	0	1	3	6	1
J. P. P.	11	5	5	1	0	0

- All of the group members improved their academic performance, aspect that was reflected in their final qualifications at the end of the school year in a very meaningful way.

#### 4. Conclusions

Music is very appreciated by adolescents. To this effect, the opportunity to listen to or participate in musical activities can be used as a reinforcement or reward in behaviour modification programs.

Students' emotional problems are the first cause of scholar failure (Lucrat, 1997; Jadue, 2002), and that is where music role becomes important. Through music practice, pupils manage to relax and forget their problems. It can be a motivator, create group spirit, help reinforce their personality and raise their self-esteem. Music teaches to be constant, to work to reach an aim. It is frequent that high school students leave their tasks unfinished. Music provides them the methods to learn to finish what they start since for example, to play an instrument requires lots of practice, to repeat again and again until getting the wanted result. And when it comes to playing in a group, the implication of every single member is fundamental to guarantee the project success. To apply that method to studies or school tasks can be really beneficial.

To work with emotionally troubled adolescents has not been a very common topic in music literature, especially not during High School. An extrapolation had to be done with concepts from Music Therapy in Special Education, as there is not a wide explicit bibliography on the effectiveness of music work in disruptive behaviour in high school or on Music Therapy and adolescence, neither on the resolution of emotional problems in high school students without evident disabilities.

We are aware of the lack of researches that show the benefits of the use of Music as a tool to work on behaviour while learning, which provides an innovative character to this work (Láinez, 2007), in which we support the importance of finding out motivating strategies in the teaching-learning process (Isasi, 2008).

There are different studies about how Music improves meaningfully the performance in certain subjects, specially in foreign languages or mathematics (Campbell, 1998; Levitin, 2011; Pérez Adalguer & Leganés, 2012; Rusinek, 2004; Toscano & Fonseca, 2012; etc.), but few of them approach the research in a multi-disciplinary way, and even less towards disruptive students, which is the reason why this research will hopefully be helpful for future works, as attending to Gardner (1993), people do not possess just one type of intelligence, but a combination of different ones, and it is important to work with all of them in order to achieve an integral formation of the human being.

In short, the objective of this study has been to determine if there can be an improvement in the behaviour and therefore the academic performance of students with disruptive behaviour following a specific routine in the music classroom. After putting in practice this experience this hypothesis has been confirmed, as it was proved that the 100% of the sample improved their self-esteem, the conflicts were reduced, students started to work together and, generally, the whole group improved their academic performance. Therefore we can conclude that Music can improve certain behaviours (Benezon, 2000) with some collaboration from the teachers (Betés de Toro et al., 2000), as using the right strategies, it can be used as an enhancer of tolerant behaviours, improver of social abilities and school performance. These results give us the courage to go on investigating the benefits of Music in students with disruptive behaviour, broadening the sample and the number of cases that allow to confirm the conclusions of this research.

## References

- Alonso, C. M. & Gallego, D. (2004). *Aprender y Formar con TIC*. Madrid: Anaya y UNED.
- Alonso, C. M. & Gallego, D. (2005). *Las TIC en el aula*. Madrid: Anaya y UNED.
- Alonso Tapia, J. (1998). *Motivación y aprendizaje en el aula. Cómo enseñar a pensar*. Madrid: Santillana.
- Benezon, R. O. (2000). *Musicoterapia. De la teoría a la práctica*. Barcelona: Paidós.
- Betés de Toro, M. et al. (2000). *Fundamentos de musicoterapia*. Madrid: Morata S.L.
- Bray, R. (2000). An examination of GCSE music uptake rates. *British journal of Music Education* 17.
- Campbell, D. (1998). *El Efecto Mozart*. Barcelona: Ediciones Urano S.A.
- Dalcroze, E.J. (1970). *Le rythme, la musique et l'éducation*. Milano: Hopli.
- Díaz Gómez, M. (2012). Investigamos, luego avanzamos. *Revista Electrónica d'Investigació Educativa y Socioeducativa*, 2, 68-76.
- Díaz Gómez, M. (2002). La música en el currículum de primaria. *Aula de innovación educativa*, 112. 8- 10.
- Dokter, D. (1995). *Arts therapies and clients with eating disorders*. London: Jessica Kingsley.
- Forrai, K., Friss, G. & otros. (1981). *Educación musical en Hungría*. Revisión española de M. Angulo. Madrid: Real Musical.
- Gallego, D. J.; Alonso C. M.; Cruz, A. & Lizama, L. (1999). *Implicaciones Educativas de la Inteligencia Emocional*. UNED. Madrid.
- Gardner, H. (1983). *Frames of Mind: The Theory of Multiple Intelligences*. New York: Basic
- Giné, N., Maruny, L., Muñoz, E. (1997). *Una canya o un pal? El pensament de l'alumnat sobre l'ESO*. Barcelona: ICE de la UAB.
- Goleman, D. (1996). *Inteligencia Emocional*. Barcelona: Kairós.
- Goleman, D. (1999). *La práctica de la Inteligencia Emocional*. Barcelona: Kairós.

- Goleman, D. (2003). *Emociones destructivas. Cómo entenderlas y superarlas*. Barcelona: Kairós.
- Güell Barceló, M. & Muñoz Redon, J. (Coords.) (2003). *Educación Emocional. Programa de actividades para Educación Secundaria Postobligatoria*. Barcelona: Cisspraxis.
- Hemsey de Gainza, V. (2002a). *Música: Amor y conflicto*. Buenos Aires: Lumen.
- Hemsey de Gainza, V. (2002b). *Pedagogía musical: dos décadas de pensamiento y acción educativa*. Buenos Aires: Lumen.
- Isasi, J. (2008). *Desde el conocimiento ¿será posible motivar en el estudio?* Madrid: Erude Ediciones.
- Jadue, G. (2002). Factores psicológicos que predisponen al bajo rendimiento, al fracaso y a la deserción escolar. *Estudios pedagógicos (Valdivia)*, (28), 193-204. Recuperado en [http://www.scielo.cl/scielo.php?script=sci\\_arttext&pid=S0718-07052002000100012&lng=es&tlng=es](http://www.scielo.cl/scielo.php?script=sci_arttext&pid=S0718-07052002000100012&lng=es&tlng=es). 10.4067/S0718-07052002000100012.
- Láinez, N. (2007). *La importancia de innovar en los métodos educativos*. Madrid: Paraninfo.
- Levitin, D.J. & Álvarez Flórez, J.M. (2008). *Tu cerebro y la música: El estudio científico de una obsesión humana*. Barcelona: RBA.
- Levitin, D. (2011). *Tu cerebro y la música*. Barcelona: RBA.
- Lucrat, L. (1997). *El fracaso y desinterés escolar en la escuela primaria Cuáles son sus causas y cómo se explican. 2ª Ed.* México: Gedisa.
- Pérez Aldegue, S. & Leganés Lavall, E.N. (2012). La Música como herramienta interdisciplinar: un análisis cuantitativo en el aula de Lengua extranjera de Primaria. *Revista de Investigación en Educación*. 10 (1), 127-153.
- Pascual Mejía, P. (2006). *Didáctica de la música en educación infantil*. Madrid: Pearson Pentice Hall.
- Rusinek, G. (2004). Aprendizaje musical significativo. *Revista Electrónica Computense de Investigación en Educación Musical*, 1, 1-16.
- Sanuy, M. & González Sarmiento, L. (1969). *Orff-Schulwerk Música para niños*. Madrid: Unión Musical Española.
- Swanwick, K. (1997). *Música, pensamiento y educación*. Madrid: Morata.
- Tomatis, A. (1991). *Pourquoi Mozart?* Bélgica: Fixot.
- Toscano Fuentes, C.M. & Fonseca Mora, M.C. (2012). La música como herramienta facilitadora del aprendizaje del inglés como lengua extranjera. *Teoría de la Educación. Revista Interuniversitaria*, 24 (2), 197-213.
- Vallés Arándiga, A. (2003). *Psicopedagogía de la inteligencia emocional*. Valencia: Promolibro.
- Willens, E. (1970). *Introduction à la Musicotherapie*. Bienne (Suiza): Eds.Pro Música.
- Willens, E. (1979). *Las bases psicológicas de la educación musical*. Buenos Aires: Eudea.
- Willens, E. (1981). *El valor humano de la educación musical*. Barcelona: Paidós.
- Wuytack, J. (1970). *Música Viva*. Paris: A. Leduc.
- Wuytack, J. & Boal Palheiros, G. (1996). *Audición Musical Activa*. Porto: Associação Wuytack de Pedagogía Musical.