

# EFFECT OF TWO THERAPIES ON MANAGING CONDUCT DISORDER AMONG ADOLESCENTS WITH INTELLECTUAL DISABILITY IN IBADAN, OYO STATE, NIGERIA

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## Abstract

Conduct disorder is one of the common social disorder which can result in adolescents with intellectual disability exhibiting behaviour that is both immature and inappropriate and will increase aggression towards others if not effectively managed. The present study was conducted to investigate the effect of music therapy and recreational activities on managing conduct disorder among adolescents with intellectual disability. The study sample were selected from three special schools for adolescents with intellectual disability in Ibadan, Oyo State, Nigeria. Purposive sampling technique was used for the selection of thirty (30) adolescents with intellectual disability from the schools while they were randomly assigned to three groups (music therapy, recreational activities and control groups). Eighteen sessions of music therapy and recreational activities were performed for the two experimental group each lasting 45 minutes whereas no sessions were applied for anyone in the control group. Modified Aggressive Behaviour Scale (MABS) was used before and after intervention to collect data on conduct disorder among adolescents with intellectual disability. Analysis of Covariance (ANCOVA) was used for data analysis. Findings revealed that there was significant main effect of treatment on managing conduct disorder. The main effect of gender on conduct disorder was not significant and the interaction effect of treatment and gender did not significantly reduce conduct disorder among the adolescents. Music therapy and recreational activities reduce conduct disorder among adolescents with intellectual disability and can be used as a non-pharmacological intervention to reduce emotional states in this group.

## Introduction

A major problem among adolescents with intellectual disability is the exhibition of conduct disorder (CD) with incidence of 'serious CD approximately about 10% (Lowe 2007) and 15% of any type of CD (Emerson, Kiernan Alborz Reeves, Mason, Swarbrick, Marson, and Hatton, 2001a). CD among adolescents is a common challenge but complex resulting in major difficulty which may hinder effective screening and

treatment for professional healthcare providers. Aggressive behaviour (7%), disruptive conduct (4–5%) and self-injury (4%) are the most common types of CD (Emerson, Kiernan Alborz Reeves, Mason, Swarbrick, Marson, and Hatton, 2001a). Moreover, the most demanding types of such behaviours is likely to continue all through life (Emerson, Kiernan, Alborz Reeves, Mason, Swarbrick, Kiernan and Mason 2001b; Murphy et al. 2005; Totsika, Toogood, Hastings and Lewis, 2008). CD is a social construct, complex term because behaviour exhibited by an individual will have to be perceived as injurious by members of the community before it is grouped as harmful, frightening, traumatic or infuriating (Royal College of Psychiatrists 2007). The implication is that what is described as CD in a particular culture may be in another. For various reasons CD is a major mental health challenge.

First, it includes violent behaviour which is closely associated with aggression and is highly correlated with a variety of issues linked to social, emotional and academic conditions/stimulations (Frick, Stickle, Dandreaux, Farrell, and Kimonis, 2005). For instance, CD-related actions frequently lead students to be ignored by peers and withdrawn or threatened with suspension from school (Frick, 2012). Secondly there is a correlation between childhood CD with challenges later confronted by adolescent and adult later, including psychological issues (abuse of substance), legal issues (possibility of imprisonment), academic issues (for example drop-out from school), behavioural issues (challenge of adjusting to marital task), workplace difficulties (e.g. poor job productivity), and health issues (Odgers, Caspi, Broadbent, Dickson, Hancox, Harrington and Moffitt, 2007; Odgers, Moffitt, Broadbent, Dickson, Hancox, Harrington and Caspi, 2008). Depending on the severity of disability various forms of CD are exhibited by adolescents with intellectual disabilities. The behaviour for example includes physical attack on things or individuals, self-injury, sexual assaults, physical aggression (for example outburst or pilfering), uncoordinated body language or habits (Royal College of Psychiatrists 2007).

In situations, where the conduct undermines the wellbeing or security of others, the individual may be excluded from services or social activities because the deviant attitude is unacceptable socially or morally. Finding from various studies revealed that there is correlation between poor academic performance and CD which in turn will prevent academic progress if appropriate intervention is not adopted to minimize the impact. (Chen, Huang, Chang, Wang and Dan, 2010). In a study conducted by Barriga Doran, Newell, Morrison, Barbetti, and Robbins (2002) it was concluded that the correlation between CD and academic achievement measures was not significant. Connor (2004) found a significant relationship between failure and aggressive behaviour which is a form of CD. Most researchers perceive CD as social behaviour that can be learnt. This is supported by the assertion of Berkowitz (1989) who noted that the tendency to express CD and desertion is higher as a result of exposure of an individual to previous disturbing events. In addition, the prevalence of CD and loneliness depends on higher rates of cognitive processing.

Conduct behaviours are known to have resulted from inaccurate or misleading modeling, due to inefficient and poor information sharing with others. Adolescents with intellectual disability are more likely to acquire patterns of behaviours that are both inappropriate and ineffective (Berkowitz, 1990). This sometimes leads to the inability of adolescents with intellectual disability engagement in social activities. Chen, Huang, Chang, Wang and Dan, 2010 (2010) findings indicated that violence had special effects on subsequent social competence and academic achievement. Also, Aggarwal and Bihari (2014) pointed out that aggressive behaviour and academic performance based on gender have negative relationships. In his study, Patil (2016) found that rural adolescents were more aggressive than urban adolescents. Datta, Cornell and Huang (2012) reported that increased CD were connected with less upstanding attitude at school level and increased reinforcing negative behaviour at personal level, while at the same time controlling for other school and learners' demographic factors.

Moreover, Powers and Bierman (2013) noted that increased conduct disorder in the classroom were linked to proximal peer relationships, including increased possibility of associating with aggressive peers that will lower the rate of peer rejection. Emotional intelligence and the type of parenting styles, both father and mothers also play crucial part in perception and display of CD. In some studies, general positive behaviour support (PBS) is identified as means of improving these behaviours. Although, different forms of support can be adopted depending on the behaviour which an individual exhibits (Matson, Neal and Kozlowski, 2012) but most CD research focuses on functional evaluation and not the provision of appropriate interventions. It is critical to adopt supportive intervention in the management of CD among adolescents with intellectual disability so that they can be productive member of their community (Arc, 2010). Furthermore, ensuring that teachers have adequate experience on intervention strategies that can be adopted, in addition to the importance of evaluation will not be out of place. A research conducted by Jasper and Morris (2011) on non-suicidal and self-injurious behaviour (NSSIB) and the training the teachers had received to assist students revealed that teachers who were trained reported being more confident in identifying learners with CD. Two of such intervention that can be used are music therapy and recreational activities.

Heward (2005) revealed that social growth of adolescents with intellectual disability requires unique support and intervention. Music therapy can be used to evaluate improvement in social skills of adolescents with intellectual disability because it provides opportunity for social interaction . An appropriate and safe environment is created when music therapy is used for enhancing social activities and motivates positive self-interest due to the intrinsic interest and motivation that is connected with music (Hashemian, Mashoogh, and Jarahi, 2015). Previous findings showed that human behaviour and emotions are positively related (Robb, Burns, Stegenga, Haut, Monahan, Meza, Stump, Cherven, Docherty, Hendricks-Ferguson, Kintner, Haight, Wall, and Haase, 2014; Fritz, Halfpaap, Grahl, Kirkland, and Villringer, 2013; Ghetti, 2013). Moreover, social indifference, loneliness, lack of enjoyment and aggression also

reduces using music therapy. (Hashemian, Mashoogh, and Jarahi, 2015). Moreover, social indifference, loneliness, lack of enjoyment and aggression also reduces using music therapy. (Hashemian, Mashoogh, and Jarahi, 2015).

Therefore, treating of medical and psychiatric disorders can be done using music (Ghetti, 2013). Pain, distress, depression and relationship issues are some of the psychiatric disorders challenges that can be treated using music therapy (Sili, Fida, Proietti, Vellone, and Alvaro, 2013; Nightingale, Rodriguez, and Carnaby, 2013; Blain-Moraes, Chesser, Kingsnorth, McKeever, and Biddiss, 2013). Emotional trauma can be regulated using music therapy which helps in stimulating the release of endorphins (Vollert, Stork, Rose, and Mockel, 2003, Boso, Politi, Barale, and Enzo, 2006). In other words, the functioning of the brain can be enhanced using music therapy so that it can effectively cope with stress as well as increase self-satisfaction and self-confidence (McKinney, Tims, Kumar, and Kumar, 1997). Moreover, music helps in creating of a healthy atmosphere for the development of good social interaction, positive self-esteem, reduced social isolation, loss of interest, and resentment. (Habibipour, Habibipour, Habibipour, and Rejaee, 2008; Smeijsters, and Cleven, 2006; Saarikallio, and Erkkilä, 2007; Labbe, Schmidt, Babin, and Pharr, 2007; Hashemian, Mashoogh, and Jarahi, 2015).

Issues relating to CD has been investigated by researchers who have suggested recreational activities for managing aggression among population describe as social risky individuals (Katz, Kelly, Basinger-Fleishman, Henry, 2010; Gaines and Barry, 2008). Implementing recreational activities as part of educational programmes for adolescents living in low socioeconomic community has been found to have significant effect on improving self-esteem, development of creativity, independence and abilities to make the right decision while level of social vulnerability is reduced (Manzano 2005; González and Gimeno, 2013). Many findings revealed that using recreational activities for managing CD make it easier to focus on rules, organisational skills, teamwork, better control of aggressive behaviour, and also to recognise mistakes without experiencing disappointment while appreciating other people's abilities. (Vásquez and Díaz-Aberasturi, 2005).

The major goal of these interventions for adolescents with intellectual disability is the inclusion of experiences that will enable that these adolescents to effectively transcend the various challenges and abuses they are constantly subjected to resulting from predisposition to violent actions and justification for aggression towards others and self (Orue, 2012). Increase in social insertion; and control of aggressive behaviours are other benefits that can be achieved when recreational activities is adopted as intervention for the management of CD among adolescents with intellectual disability (Burt and Butler, 2011; United Nations, 2003; Wells and Banning, 2008; Willemse, Smith and Van Wyk, 2011). The focus of other studies has been on using physical activity as a strategy for reducing the rates of violence among population that are at social risk (Knorth, Klomp, Van Den Bergh and Noom, 2007). Moreover, the goal of using recreational activities is to contribute to fostering healthy attitudes and behaviours so

that the level of aggressive behaviour is reduced in any community (Sáenz, Gimeno, Gutiérrez and Garay, 2012).

Furthermore, in various social context, comparative studies have also been conducted between boys and girls with findings revealing that the possibility of exhibiting CD among adolescents living in socially risky conditions is higher in comparison to those in non-aggressive situations (Chaux, 2003). In her research, Chatterjee (2016) asserted that females had a higher degree of CD compared to male adolescents while adolescents from high socio-economic background were prone to exhibit aggressiveness when compared with adolescents from low socioeconomic background. Kohli and Malik (2009) found that male participants scored higher than females on aggressive behaviour, verbal violence, animosity, and total hostility, while females scored higher on anger type of CD. Akhtar and Kushwaha (2015) reported that in terms of CD, males were more aggressive than females. In the findings of Talukdar and Deka (2014) male adolescents' aggressive behaviour was significantly higher than female. In a study conducted by Rahman and Nahar (2013) it was concluded that boys exhibit more aggression when compared to girls and that respondents whose academic performance were high in comparison to respondents with low performance were more aggressive. They also noted that aggressive behaviour among male adolescents whose academic achievement was high in rural areas were higher when compare to peers in urban areas. The present study was conducted to investigate the effect of two therapy on reducing conduct disorder in adolescents with intellectual disability.

### **Hypotheses**

1. There is no significant main effect of treatment (music therapy and recreational activities) on reducing conduct disorder among adolescents with intellectual disability in Ibadan, Oyo State, Nigeria
2. There is no significant main effect of gender on reducing conduct disorder among adolescents with intellectual disability in Ibadan, Oyo State, Nigeria.
3. There is no interaction effect of treatment and gender on reducing conduct disorder among adolescents with intellectual disability in Ibadan, Oyo State, Nigeria.

### **Material and Methods**

The study was designed as a 3x2 non randomized factorial matrix that adopted pretest-posttest control group quasi-experimental research. Treatment (music therapy, recreational activities and Conventional method) was considered at three levels while gender was considered at two levels (male and female).

The table below shows the design used in the study.

Table 3.1: Layout of 3x2 Non-Randomized Factorial Design

Gender	Treatment		
	Music Therapy	Recreational Activities	Control
Male	6	5	6
Female	4	5	4

The design is represented as thus:

Experimental Group 1: (E1)  $O_1 X_1 O_4$

Experimental Group 2: (E2)  $O_2 X_1 O_5$

Control Group 3: (E3)  $O_3 X_2 O_6$

Where:

$O_1, O_2$  and  $O_3$  represent pretest scores of the experimental groups and control group respectively

$O_4, O_5$  and  $O_6$  represent posttest scores of the experimental groups and control group respectively

$X_1$  represents the treatment for experimental group (the teaching mode of music therapy)

$X_2$  represents the treatment for experimental group (the teaching mode of recreational activities)

$X_2$  represents the treatment for control group for the conventional method of managing conduct disorder

### Participants

The study participants comprised of thirty (30) children with intellectual disability attending special school in Ibadan metropolis. Purposively sampling technique was used to select three (3) schools represented as school A, B and C in Ibadan metropolis. Music therapy was used for participants in school A, recreational activities for participants in group B while conventional method of teaching was used for participants in group C who served as the control group. Total enumeration was used based on the number of learners with mild intellectual disability in the two (2) schools.

### Research instruments

Slosson Intelligent Test (SIT) was constructed and validated by Slosson in 1961 for analysing general intelligence. The test was adapted and validated to suit African community because S.I.T is a foreign test. Some words and items were adjusted to the culture of participants without compromising validity of the scale. Slosson used Stanford Binet (SB) Intelligence Test 1960 revision to construct the scale and determine its validity. The validity coefficients for each age group was independently determined and this ranged from 0.90 to 0.98. It was concluded by Slosson that just as SB correlates with itself, the SIT also correlated with its criterion.

### **Modified Aggressive Behaviour Scale (MABS)**

The scale was invented by Orphinas and modified by Bosworth and Espelage (1995). The scale comprised of four sub-scales: fighting, bullying, anger as well as cooperative and caring behaviour. The scale has internal consistency for fight – 0.71, bullying – 0.83, anger 0.75, caring and cooperative behaviour – 0.60. The scoring was done in such a way that the rating were are reversed for non-desirable behaviour. Points was attached to the scale as follows:

No opportunity	-	1
Never	-	2
Once or twice	-	3
Thrice or Four	-	4
Five or more	-	5

The face and content validity of the instrument were was ensured after which the reliability of the instrument was determine using Kuder-Richardson formula 21 which yielded 0.81 and an average item difficulty index of 0.45.

### **Procedure**

Three (3) stages were involved in the data collection after obtaining approval to conduct the study from the Local Education Authority which are pretest, intervention and posttest. An official letter of introduction was submitted to the selected school head. Two research assistants who served as resource teachers were trained for five (5) on how to provide the intervention to participants. Based on the training on how the intervention would be deplored, research assistants assisted in screening of participants using Slosson Intelligent Test after which Modified Aggressive Behaviour Scale was administered to participants which was tagged the pretest score. The intervention was administered for a period of eight (8) weeks lasting forty-five (45) minutes each for each contact session. Placebo treatment was given to the control group (Conventional Method). The instrument used during the pretest was also used to evaluate the treatment and control group as posttest at the after eight weeks of providing intervention.

### **Data Analysis**

The data generated were analysed using Analysis of Covariance (ANCOVA) to test the null hypotheses at 0.05 level of significance. Moreover, the marginal estimated means of intervention was determined.

### **Results**

H<sub>0</sub>1: There is no significant main effect of treatment (music therapy and recreational activities) on reducing conduct disorder among adolescents with intellectual disability in Ibadan, Oyo State, Nigeria

Table 1: Analysis of Covariance (ANCOVA) of Post- Reading Performance of Learners with Intellectual Disability by Treatment, Age and Verbal Ability

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1092.84 <sup>a</sup>	6	182.14	6.27	.001	.62
Intercept	362.28	1	362.28	12.48	.002	.35
Pretest	398.01	1	398.08	13.71	.001	.37
Treatment	503.29	2	251.66	8.67	.002	.43
Gender	26.85	1	26.85	.93	.346	.04
Treatment * Gender	82.90	2	41.45	1.42	.260	.11
Error	667.83	23	29.04			
Total	37814.00	30				
Corrected Total	1760.67	29				

a. R Squared = .62 (Adjusted R Squared = .52)

Table 1 shows that there was significant main effect of treatment reducing aggressive behaviour among adolescents with intellectual disability ( $F_{(1,2)} = 8.67; p < .05; \text{partial } \eta^2 = .43$ ). Thus, the null hypothesis was rejected. This shows that the two therapies (music therapy and recreational activities) were effective in managing conduct disorder among adolescents with intellectual disability.

Table 2 Estimated marginal mean for the treatment and control group on conduct disorder among adolescent with mild intellectual disability

Treatment	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Music Therapy	36.44 <sup>a</sup>	1.31	33.27	42.13
Recreational Activities	33.39 <sup>a</sup>	1.59	31.13	39.51
Conventional Strategy	27.19 <sup>a</sup>	1.70	24.74	31.65

Therapy group having the highest mean score of 36.14, followed by recreational activities group with a mean score of 33.39 while the least mean score was recorded for Conventional strategy with at 39.19. The highest Std Error was for control, recreational activities and music therapy were 1.70, 1.59 and 1.31 respectively. Music therapy was observed to have the highest upper bound at 42.13, followed by recreational activities at 39.51 with the control group recorded as 31.65 which was the lowest. The implication of this is that, participants in the two experimental groups (music therapy and recreational activities) benefitted significantly from the intervention provided when compare to the control group.



**H<sub>0</sub>2:** There is no significant main effect of gender on reducing conduct disorder among adolescents with intellectual disability in Ibadan, Oyo State, Nigeria

Table 1 reveal that gender did not significantly influence conduct disorder among adolescents with intellectual disability ( $F_{(2,1)} = .93$ ;  $p > .05$ ; partial  $\eta^2 = .04$ ). The size effect is 4.0%. Indicating that gender did not have no significant main effect on conduct disorder among participants.

**H<sub>0</sub>3:** There is no interaction effect of treatment and gender on reducing conduct disorder among adolescents with intellectual disability in Ibadan, Oyo State, Nigeria.

Table 1 shows that the interaction of treatment and gender did not have significant effect on conduct disorder among adolescents with intellectual disability ( $F_{(2,2)} = 1.42$ ;  $p > .05$ ; partial  $\eta^2 = .11$ ). The size effect is 11.0%. It means that post conduct disorder of participants was not substantially different due to the interaction of treatment and gender.

### **Discussion of Findings**

There was significant main effect of treatment on reducing conduct disorder among adolescents with intellectual disability in Ibadan, Oyo State, Nigeria. Moreover, conduct disorder showed positive changes to the treatment (music therapy and recreational activities). The finding is significant with the report of Labbé et al (2007) who showed that listening to music significantly reduce stress, frustration, and arousal of the sympathetic nervous system after exposure to psychological related stress. This also aligns with the findings of previous research on the effect of music therapy on enhancing mental health and management of emotional issues including frustration while coping mechanism is improved. (Fritz et al., 2013; Sili, 2013; Nightingale, 2013; Habibipour et al., 2008; Smeijsters, and Cleven, 2006; Saarikallio, and Erkkilä, 2007; Labbe et al., 2007; Hashemian et al., 2015). The finding also aligns with the submission that recreational activities is appropriate for managing aggression among population describe as social risky individuals (Katz, Kelly, Basinger-Fleishman, Henry, 2010; Gaines and Barry, 2008).

There was no significant main effect of gender on reducing conduct disorder among adolescents with intellectual disability in Ibadan, Oyo State, Nigeria. The present finding is not consistent with the submission of Kohli and Malik (2009) who reported that male participants scored higher than females on aggressive behaviour, verbal violence, animosity, and total hostility, while females scored higher on anger type of CD. The result also negates the conclusion of Akhtar and Kushwaha (2015); Talukdar and Deka (2014) whose studies revealed that gender was significant on conduct disorder.

There was no significant interaction effect of treatment and gender on reducing conduct disorder among adolescents with intellectual disability in Ibadan, Oyo State, Nigeria. The present finding is not consistent on the effect of music therapy on enhancing mental health and management of emotional issues including frustration

while coping mechanism is improved. (Fritz et al., 2013; Sili, 2013; Nightingale, 2013; Habibipour et al., 2008; Smeijsters, and Cleven, 2006; Saarikallio, and Erkkilä, 2007; Labbe et al., 2007; Hashemian et al., 2015). The present finding is not consistent with the submission of Kohli and Malik (2009) who reported that male participants scored higher than females on aggressive behaviour, verbal violence, animosity, and total hostility, while females scored higher on anger type of CD.

### **Conclusion and recommendations**

It was concluded that using music therapy and recreational activities in reducing conduct disorder among adolescents with intellectual disability in comparison with control group shows significant effectiveness. This may be due to participants channeling their energy towards activities that are beneficial to them and also provides opportunity for interaction among learners while learning. Based on the findings, teachers of adolescents with intellectual disability should ensure use of the two strategies in managing conduct disorder among adolescents because it appeal to the three learning styles which are visual, audio and kinesthetics. School administration should encourage teachers and parents to use methods that best fit into the learning needs of adolescents with intellectual disability both at home and in the school. There is need to urgently train teachers of adolescents with intellectual disability on how these methods should be adapted to teaching this group of learners

### **References**

- Aggarwal, P., and Bihari, S. (2014). Aggression and Academic achievement of Secondary School Students. *Bhartiyam International Journal of Education & Research*, A quarterly peer reviewed *International Journal of Research and Education*.4 (1), 1-13.
- Akhtar, J. and Kushwaha, A. K. S. (2015). Gender differences in aggressive behaviour of adolescents. *Indian Journal of Applied Research*, 5(1), 525-527.
- Arc. (2010, August 23). Position statement behavioural supports. Retrieved from [www.thearc.org](http://www.thearc.org)
- Barriga, A. Q., Doran, J. W., Newell, S. B., Morrison, E. M., Barbetti, V. and Robbins, B. D. (2002). Relationships between problem behaviours and academic achievement in adolescents: The unique role of attention problems. *Journal of Emotional and Behavioural Disorders*, 10, 233-240
- Berkowitz, L. (1989) Frustration-Aggression Hypothesis: Examination and Reformulation. *Psychological Bulletin*, 106, 59-73.
- Berkowitz, L. (1990) On the Formation and Regulation of Anger and Aggression: A Cognitive-Neoassociationistic Analysis. *The American Psychologist*, 45, 494-503.
- Blain-Moraes, S., Chesser, S., Kingsnorth, S., McKeever, P. and Biddiss, E. (2013) Biomusic: A Novel Technology for Revealing the Personhood of People with Profound Multiple Disabilities. *Augmentative and Alternative Communication*, 29, 159-173.
- Boso, M., Politi, P., Barale, F. and Enzo, E. (2006) Neurophysiology and Neurobiology of the Musical Experience. *Functional Neurology*, 21, 187-191.
- Burt, I., and Butler, S. (2011). Capoeira as a Clinical Intervention: Addressing

- Adolescent Aggression with Brazilian Martial Arts. *Journal of Multicultural Counseling and Development*, 39(1), 48-57.
- Chatterjee, S. (2016). Frustration and Aggression among Adolescents. *Indian Journal of Applied Research*, 6(2).
- Chaux, E. (2003). Agresión reactiva, agresión instrumental y el ciclo de la violencia. (Reactive Aggression, instrumental aggression, and the cycle of violence). *Revista de Estudios Sociales*, (15), 47-58.
- Chen, Huang, Chang, Wang and Dan (2010). Aggression, Social Competence and Academic Achievement in Chinese Children: A 5-year longitudinal study, *Development and Psychopathology*, 22, 583-592
- Connor, D. F. (2004). Aggression and antisocial behaviour in children and adolescents: Research and treatment. New York: The Guilford Press.
- Datta, P; Cornell, D; and Huang, F (2016). Aggressive Attitudes and Prevalence of Bullying Bystander Behaviour in Middle School. *Psychology in the Schools*. 53 (8A) 804-816.
- Emerson E., Kiernan C., Alborz A., Reeves D., Mason H., Swarbrick R. Marson, L and Hatton C. (2001a) The Prevalence of challenging behaviours: a total population study. *Research in Developmental Disabilities* 22, 77-93
- Emerson E., Kiernan C., Alborz A., Reeves D., Mason H., Swarbrick R. **Kiernan, C., and Mason, L** (2001b) Predicting the persistence of severe self-injurious behaviour. *Research in Developmental Disabilities* 22, 67-75.
- Frick, P. J. (2012). Developmental pathways to conduct disorder: Implications for future directions in research, assessment, and treatment. *Journal of Clinical Child and Adolescent Psychology*, 41, 378-389.
- Frick, P. J., Stickle, T. R., Dandreaux, D. M., Farrell, J. M., and Kimonis, E. R. (2005). Callous-unemotional traits in predicting the severity and stability of conduct problems and delinquency. *Journal of Abnormal Child Psychology*, 33, 471-487.
- Fritz, T.H., Halfpaap, J., Grahl, S., Kirkland, A. and Villringer, A. (2013) Musical Feedback during Exercise Machine Workout Enhances Mood. *Frontiers in Psychology*, 4, 921.
- Fritz, T.H., Hardikar, S., Demoucron, M., Niessen, M., Demey, M., Giot, O., et al. (2013) Musical Agency Reduces Perceived Exertion during Strenuous Physical Performance. *Proceedings of the National Academy of Sciences of the United States of America*, 110, 17784-17789.
- Ghetti, C.M. (2013) Effect of Music Therapy with Emotional-Approach Coping on Preprocedural Anxiety in Cardiac Catheterization: A Randomized Controlled Trial. *Journal of Music Therapy*, 50, 93-122.
- Habibipour, M., Habibipour, H., Habibipour, M. and Rejaee, A. (2008) Effect of Iranian Nonverbal Soft Music on the Reduction of Aggression among Boy Students of Mashhad Guidance School. *Quarterly Educational Psychology*, 3, 45-55.
- Hashemian, P., Mashoogh, N. and Jarahi, L. (2015) Effectiveness of Music Therapy on Aggressive Behavior of Visually Impaired Adolescents. *Journal of Behavioral and Brain Science*, 5, 96-100.
- Heward, W.L. (2003) Ten Faulty Notions about Teaching and Learning That Hinder the Effectiveness of Special Education. *The Journal of Special Education*, 36, 186-205.
- Jasper, A. D., and Morris, C. (2012). Special educators and nonsuicidal self-injurious

- behaviour: Self-injury training, exposure, and self-efficacy. *Teacher Education and Special Education*, 35(1), 64-76.
- Knorth, E. J., Klomp, M., Van Den Bergh, P. M., and Noom, M. J. (2007). Aggressive adolescents in residential care: a selective review of treatment requirements and models. *Adolescence*, 42(167), 461-485
- Kohli and malik. A (2009). Level of aggression: a gender based study. *Indian psychological review*, 72(3A), 155-160.
- Labbe, E., Schmidt, N., Babin, J. and Pharr, M. (2007) Coping with Stress: The Effectiveness of Different Types of Music. *Applied Psychophysiology and Biofeedback*, 3, 163-168.
- Lowe K, Allen D, Jones E (2007) Challenging behaviours: prevalence and topographies. *Journal of Intellectual Disability Research*, 51: 625–36.
- Manzano, N. (2005). Trabajando con jóvenes con riesgo de exclusión. (Working with youth at risk of exclusion). *Revista Mexicana de Orientación educativa*, (6).
- Matson, J. M., Neal, D., and Kozlowski, A.M. (2012). Treatments for the challenging behaviours of adults with intellectual disabilities. *Canadian Journal of Psychiatry*, 57(10), 587-592.
- McKinney, C.H., Tims, F.C., Kumar, A.M. and Kumar, M. (1997). The Effect of Selected Classical Music and Spontaneous Imagery on Plasma Beta-Endorphin. *Journal of Behavioral Medicine*, 20, 85-99.
- Murphy G. H., Beadle-Brown J., Wing L., Gould J., Shah A. and Holmes N. (2005) Chronicity of challenging behaviours in people with severe intellectual disabilities and/or autism: a total population sample. *Journal of Intellectual Disability Research* 35, 405–18.
- Nightingale, C.L., Rodriguez, C. and Carnaby, G. (2013) The Impact of Music Interventions on Anxiety for Adult Cancer Patients: A Meta-Analysis and Systematic Review. *Integrative Cancer Therapies*, 12, 393-403.
- Odgers, D. L., Caspi, A., Broadbent, J. M., Dickson, N., Hancox, R. J., Harrington, H. Moffitt, T. E. (2007). Prediction of differential adult health burden by conduct problem subtypes in males. *Archives of General Psychiatry*, 64, 476–484.
- Odgers, D. L., Moffitt, T. E., Broadbent, J. M., Dickson, N., Hancox, R. J., Harrington, H., Caspi, A. (2008). Female and male antisocial trajectories: From childhood origins to adult outcomes. *Developmental Psychopathology*, 20, 673–716.
- Orue, I. (2012). La justificación de la violencia como mediador de la relación entre la exposición a la violencia y la conducta agresiva en infancia. (Justification of violence as a mediator of the relationship between exposure to violence and aggressive behavior in childhood). *Psicothema*, 1(24), 42-47.
- Patil, M. (2016). Aggression and Frustration among Rural and Urban Secondary School Students, *International Journal of Indian Psychology*, 3(4), 12-20
- Powers, C. J. and Bierman, K. L (2013). The Multifaceted Impact of Peer Relations on Aggressive- Disruptive Behaviour in Early Elementary School. *Developmental Psychology*, 49(6A) 1174- 1186.
- Rahman, M.D and Nahar, L. (2013). Aggression in Boys and Girls as Related to their Academic Achievement and Residential Background, *Psychology*, 4(5), 459-462.
- Robb, S.L., Burns, D.S., Stegenga, K.A., Haut, P.R., Monahan, P.O., Meza, J., Stump, T. E. Cherven, B. O., Docherty, S.L., Hendricks-Ferguson, V. L., Kintner, E. K., Haight,

- A. L., Wall, D. A. and Haase, J. E. (2014) Randomized Clinical Trial of Therapeutic Music Video Intervention for Resilience Outcomes in Adolescents/Young Adults Undergoing Hematopoietic Stem Cell Transplant: A Report from the Children's Oncology Group. *Cancer*, 120, 909-917.
- Royal College of Psychiatrists (2007) Challenging Behaviour: A Unified Approach (College Report CR144). Royal College of Psychiatrists.
- Saarikallio, S. and Erkkilä, J. (2007) The Role of Music in Adolescents' Mood Regulation. *Psychology of Music*, 35, 88-109.
- Sáenz, A., Gimeno, F., Gutiérrez, H., and Garay, B., (2012). Prevención de la agresividad y la violencia en el deporte en edad escolar: Un estudio de revisión. (Prevention of aggressiveness and violence in sports in school children: a review). *Cuadernos de Psicología del Deporte*, 2(12), 57-72.
- Sili, A., Fida, R., Proietti, D., Vellone, E. and Alvaro, R. (2013) Decreasing Preoperative Anxiety by Music: Experimental Study in a Vascular Surgery Unit. *Assistenza Infermieristica e Ricerca: AIR*, 32, 13-19.
- Smeijsters, H. and Cleven, G. (2006) The Treatment of Aggression Using Arts Therapies in Forensic Psychiatry: Results of a Qualitative Inquiry. *The Arts in Psychotherapy*, 33, 37-58.
- Totsika V., Toogood S., Hastings R. P. and Lewis S. (2008) Persistence of challenging behaviours in adults with intellectual disability over a period of 11 years. *Journal of Intellectual Disability Research* 52, 446-57
- Talukdar, R. R. and Deka, R.S. (2014). A study on aggression level among adolescents. *International Journal of Social Science and Humanities Research*, 2(4), 91-94.
- United Nations. (2003). El deporte como instrumento de prevención en el uso Indebido de Drogas. (Sport as an instrument for preventing drug abuse).
- Vásquez, J., and Díaz-Aberasturi, A. (2005). Una experiencia de educación de calle con adolescentes en riesgo de exclusión en la ciudad de Guadalajara. (An experience in street education with adolescents at risk of exclusion in the city of Guadalajara). *Intervención Psicosocial*, 14(2), 223-233.
- Vollert, J.O., Stork, T., Rose, M. and Mockel, M. (2003) Music as Adjuvant Therapy for Coronary Heart Disease. Therapeutic Music Lowers Anxiety, Stress and Beta-Endorphin Concentrations in Patients from a Coronary Sport Group. *Deutsche Medizinische Wochenschrift*, 128, 2712-2716.
- Wells, M., and Banning, S. G. (2008). The Logic of Youth Development: Constructing a Logic Model of Youth Development through Sport. *Journal of Park & Recreation Administration*, 26(2), 189-202.
- Willemse, M. M., Smith, M. R., and Van Wyk, S. B. (2011). The relationship between Self-efficacy and aggression in a group of adolescents in the peri-urban town of Worcester, South Africa: Implications for sport participation. *African Journal for Physical, Health Education, Recreation and Dance*, 90-102.