

Systematic Review

Music Making Interventions with Adults in the Forensic Setting – A Systematic Review of the Literature – Part II: Case Studies and Good vibrationsBiljana Vrancic Coutinho¹, Anita Lill Hansen^{2,3}, Leif Waage³, Thomas K. Hillecke¹, Julian Koenig⁴¹School of Therapeutic Sciences, SRH University Heidelberg, Heidelberg, Germany²University of Bergen, Department of Clinical Psychology, Bergen, Norway³Centre for Research and Education in Forensic Psychiatry, Haukeland University Hospital and Correctional Service, Region West, Bergen, Norway⁴Department of Psychology, The Ohio State University, Columbus, OH, USA**Abstract**

The purpose of this systematic review of international research is to summarize the available literature on active music making interventions with adult offenders in forensic settings (i.e. forensic psychiatry or correctional facilities at different security levels). A systematic search of 13 electronic databases according to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) statement was employed. 28 articles fitting the inclusion criteria were included in the review. The search revealed mainly qualitative and narrative reports including articles on group music therapy, educational music making, choir interventions, individual music therapy sessions and musical projects. The musical interventions are described in detail to provide therapists with ideas on how to set up session with clients who may be in this particular situation and to help them understand the possible impact of musical interventions in the forensic setting. Furthermore, implications from the current evidence and ideas for future research are discussed. Note: Due to the length of the review it is published in two subsequent issues. This is the second part of the review focusing on case studies and the Good Vibrations program. The first part of the review was published in the previous issue of *Music and Medicine* focusing on group interventions.

Keywords: *Forensic, Music, Offender, Prison, Review*multilingual abstract | mmd.iamonline.com**1 Introduction**

This is the second part of a systematic review on music making interventions with adults in the forensic setting. For details on the background and methods of the literature search, please refer to the first part published in the previous issue of *Music and Medicine*. The headings and references are subsequently numbered in line with the first part of the review.

3.4. Case studies/case examples

The search revealed several music therapy case studies. One article describes the work during individual music therapy sessions with two elderly prisoners, both of whom had life

sentences [84]. Another article describes working with an overly-controlled offender [85]. A third article gives an extensive example on how music therapy can be embedded in *Cognitive Analytic Psychotherapy* [86]. The fourth article [87] introduces a music therapy anger management treatment program and depicts its practice with an example. The final article describes the long-term treatment of a patient [44].

Huckel [84] explores the therapeutic process of two elderly prisoners sentenced for life who were engaged in individual music therapy sessions. After the initial assessment which consisted of a 10-week open music therapy group, the client in the first case study participated in 47 sessions, and the client in the second case study participated in 24 sessions. The first case study describes playing and improvising on the bass drum (patient) and the guitar (therapist). The client's development from fluctuating tempi, musical rigidity and anxious feelings about musical changes to stable rhythms, experiments with new sounds, techniques and instruments, and flexibility in handling changes is described. The client spoke of music making as a "release of his inner self." The second case study explains that the client refused to play any instruments at the beginning but became very emotional when the therapist played and sang songs he wished to hear. Later, the receptive sessions turned into active ones when the client felt confident enough to sing songs from his past. The client improved his singing skills, experimented with vocal

PRODUCTION NOTES: Address correspondence to: Biljana V. Coutinho, School Of Therapeutic Science, SRH University Heidelberg, Maria-Probst-Str. 3, 69123 Heidelberg, Germany, E-mail: Biljana.Coutinho@hochschule-heidelberg.de | COI statement: The authors declared that no financial support was given for the writing of this article. The authors have no conflict of interest to declare. The work is based on the master thesis of the first author that was awarded with the SRH Innovation Award.

improvisation and learned how to sing in accordance with the rhythm and lyrics in the music. The client considered music as a strong part of his identity. In both cases, the two clients who may have resigned themselves to die in the unit, formed a strong therapeutic alliance, increased their verbal reflections about music, expressed difficult feelings and thoughts, and went through a “painful process of ending” [84, p. 8]. One client was permitted to perform several songs with the therapist at the unit’s Christmas service. Music therapy became a safe place for the clients. As staff noticed the change in behavior of the inmates and their sadness after the end of the therapy, their interest in music therapy increased and the sessions proved to be successful in opening communications with staff [84].

J. Cohen’s article of 1987 [85] describes two case models of how to use music therapy with the over-controlled offender. Both clients attended individual and group sessions. The therapeutic goals were to help the client expand his dynamic and melodic range and to encourage verbal associations for a more conscious use of expressive musical qualities. The therapist reinforced the client’s musical self by synchronizing with syncopating to and imitating the client’s rhythm. She also used “exercises requiring contrasting opposite musical qualities” [85, p. 218], and games as well as storytelling where the client created verbal images to match the music. Exploring his dynamic range, playing louder and acknowledging how the group followed him, one client reported feeling “charged up”. After gaining some experience, he began asserting himself in the group, which had not been possible before. In the beginning of the group sessions, the patient preferred verbal interaction and requested individual sessions where he felt more safe to share his feelings. In the individual sessions he began creative writing, which finally in the group session was combined with music and embedded into a songwriting task. He was also taught the basics of scale and melody construction to facilitate musical experience by meeting his preference for cognitive processing. The patient was able to use music to express his inner states and release his emotions. The author finds that in both cases music seemed to be beneficial for the treatment of the over-controlled offender [85].

Dickinson [86] demonstrates an integrated music therapy treatment consisting of dynamic music therapy and *Cognitive Analytic Psychotherapy* (CAT), which has been developed working with personality disordered patients who have offended. The aim is to help patients with severe personality disorders to “access, recognize and work with difficult feelings” [86, p. 841]. In the case study, techniques from CAT were used in combination with musical improvisation to reintegrate split-off aspects of the patient’s personality. The article describes the CAT concept and the musical and psychotherapeutic approach in great detail and displays several important incidents at different levels of the therapeutic progress. Music is considered having the potential to “take the personality disordered patient beyond words or where words have not yet been possible” [86, p. 864] and thus

function as a “mediating tool for emotional regulation” in terms of different, splitted self states [86, p. 840]. E.g., the patient used his own bass guitar that served as a transitional object representing a part of himself “from which he could both dissociate and connect” [86]. Other instruments (i.e., electric guitar, Tam Tam, bass xylophone, piano and descant recorder) were used by patient and therapist to improvise. Listening to the recordings, the patient reflected the music and sometimes associated various states of himself (i.e., of his mind or situations from his childhood). The article provides many details and background information that cannot be displayed here. However, the musical component proved to be a way of helping the patient - with the therapist’s support - to find lost parts of himself, to express himself beyond words, and to create a bridge across the split between the patient’s different states. He also started to distinguish feelings and thoughts, realizing that feelings can be felt safely inside the body (i.e. inside his heart and not in his head). Moreover, the author emphasizes the importance of an ongoing support and containment to avoid further dissociation when musical interaction recalls intense experiences and emotional pain [86]. [A part of the further development of the patient and a re-assessment in music therapy by the author is given in the essay “The Lost Boy”-An exploration of Dissociation Using Cognitive Analytic Music Therapy, published in the book “Forensic Music Therapy”, 2012, Jessica Kingsley Publishers] [56]

Hakvoort [44] presented a well-developed, “Music Therapy Anger Management Program for Forensic Patients”, including a case example and a case study which shows in detail how music therapy can be embedded in anger management. Five basic points are outlined for the program: (1) short-term treatment; (2) musical surplus value (helping the patient to acquire emotional experience through music); (3) attention to three polarities of forensic patients (safety versus confrontation, innovation versus stabilization, control versus autonomy), (4) flexibility, and (5) clear-cut criteria for indication. The program is divided into five phases (i.e., introduction, relaxation, confrontation, application, termination) and includes several objectives as well as the presentation of extensive suggestions concerning interventions for each phase. The case study describes that in the first two phases, the client and the therapist improvised on the piano using blues schemes and free improvisations on the black keys. The improvisations were discussed in terms of expression linked to the specific emotion of anger. As it was difficult for the client to express anger musically as well as generally, the therapist used different improvisation techniques to find a way for the client to express himself appropriate. An intervention is described where the therapist helped the client to show his agitation, which he was typically used to hiding. The confrontation phase began with receptive music listening to relaxing music. Then fear-provoking music followed, which evoked an image of an abuse the client experienced as a child. The client did not send clear messages about listening to that song and when played again, he

associated the music with his offence. The session made the client to understand that his ambiguous messages make it difficult for others to identify his boundaries. During the next session, the client and therapist played the drums wherein the therapist tried to provoke anger again by creating situations of powerlessness. Such interventions led the client to be able to show his irritation and anger musically by loud drumming as soon as he became angry. The client was able to verbalize the triggers of his irritation and anger identified during the process. When he felt extremely tense, he used the piano to unwind. The client indicated that he benefited from the program and the socio-therapists in the unit reported reduced ambiguity and better ability to clearly express oneself. Music helped to make anger discernible. At the same time musical distance provided safety and also helped the client to deal adequately with his anger [44].

Glyn [87] describes a four-and-a-half year, psychoanalytic, long-term music therapy treatment with a mentally ill offender. The author focuses on the patient's development of an awareness of the therapeutic relationship itself, because he holds the view that for the patient, a position outside of himself is necessary to gain insight into his offence. In the therapeutic relationship, two people dynamically interact with each other but both can step back into a third, external position to see what they are doing. The case study describes the patient's increasing ability to acknowledge the relationship and the development from an exclusively music-based approach to the integration of verbal material in the therapy. The author reports that the patient began with the xylophone, trying to play the melody of a song. The patient is described as amenable but he continued to say that he was innocent. During later sessions, the patient went to play the drum kit, repeating the same pattern interminably and with no connection to the therapist. The patient tried to play a drum fill, which was the point at which contact was made. The therapist responded to each cymbal crash by striking wind chimes two beats later, becoming an expected answer to the call. Later the patient brought his guitar to the sessions and began to sing, accompanied by the therapist on the piano. In situations when he could not find the right chord, he refused to accept help. From then on, the sessions had a certain procedure containing four or five songs and the patient would control the music. In the fourth year, the therapist initiated more verbal interaction. During the process, the patient began to mention some fragments of his past, which were stimulated by a certain song. Verbal interpretations by the therapist and the patients spoken responses lead to important conversations with the patient realizing some of his own modes of behavior, e.g. that while playing, he just "ploughs on regardless" [87, p. 101]. In session 150, he was able to accept help from the therapist to find the right chords to a song commenting "we got there in the end" [87, p. 101]. This evoked some positive memories. In session 163, the patient performed the song he first used to connect to his past, to associate to his present situation and the therapeutic relationship. The author regards his therapeutic work in limits of what can be achieved and so

he does not claim that the sessions enabled the patient to completely achieve a position outside of himself, but he mentions other aspects that need to be considered, i.e. that many patients do not think they need treatment and consequently do not feel the need to go through a maybe painful process of change. Also the patient's emotional outbursts are often seen as setbacks from the institutions point of view. Finally the author emphasizes the importance of thinking differently and offering humane models for the patient [87].

Summary

The case studies describe in detail the processes used with patients in music therapy. By means of these descriptions, the authors show how music therapy can be incorporated in different treatment methodologies with individual treatment goals, such as the combination with the CAT-technique, the example applied to a personality-disordered patient who has offended, or the anger management program. The case studies by Glyn [87] and Huckel [84] display how working with a patient in long-term treatment may impact incarcerated patients and, as in Huckel's case, create a safe place for life-prisoners who may have become resigned to the notion that they might die in the unit. Yet they took the risk to get involved in a relationship and formed a strong therapeutic alliance, which in this case resulted in positive improvements in communication and acquaintance skills between staff and the prisoners.

3.7. Good vibrations

This search identified two articles [88,89] on a specific music program, called *Good Vibrations*, which was part of a music charity, the Firebird Trust, but since 2009 has been an independent charity organization [90]. Mendoca's article [89] draws on fieldwork, interviews, published sources and personal experiences as a participant and observer of such a program. She describes the development of the program, the general background of music in prisons, and gives reasons for the success of the program. Wilson's article [88] on the other hand, examines the long-term effects of the program.

Good Vibrations is a music program characterizing Javanese gamelan. Since 2003, it has taken place in a variety of English and Scottish prisons, addressing a wide range of participants from maximum-security prisons to young offenders' institutions. Typically, it runs over the course of one week, although sometimes it may be longer, and involves about 15 to 20 prisoners. There are workshop leaders who follow patterns of work but prefer to act in accordance with the interests of the group. The Gamelan instruments are usually employed to perform short, simple, traditional Gamelan pieces, but improvisation and group composition are also included. A frequent intervention is an exercise in which two people sit on either side of a metallophone and develop an improvised composite melody using a special

technique of “imbal”, an interlaced form of melodic ornament. Other interventions can involve group improvisation conducted by a volunteer who uses gestures to control musical elements such as tempo or volume. At the end of the program, there is a performance for fellow prisoners, staff and invited guests (i.e., members of funding bodies, the press, arts organizations, and representatives from the Indonesian embassy). The purpose of the performance is to present the work that has taken place. The participants receive a certificate for successfully completing the program and a recorded CD of the performance is distributed to the prisoners [89]. In some workshops, the staff joined in with the prisoners, which gave prisoners a feeling of having something in common and helped them to begin to see past the uniform and to view staff as “human” and as individuals [88]. Mendoca describes that unusual programs such as this one proved to be attractive to prisoners who usually did not participate in education programs. E. g. participation in Gamelan projects can lead to further engagement in other education classes [91], which might be an indirect way to break the circle of reoffending [76,92]. Sometimes the coordination with staff and schedules can be challenging and disruptive, when prisoners arrive at the workshop at different times or are suddenly pulled out for medical reasons, visits or court appearances [89]. The program was beneficial for the prisoners as well as the staff because it functioned as a safe place for social interaction, even when disagreement occurred. It also helped prisoners to increase self-esteem and experience trust.

Wilson et al. also mentioned “enthusiasm of the tutors, the style of delivery and the meditative quality of the music” [88, p. 182] as reasons for prisoners’ motivation to complete the project. The study illustrates that even six months after the program, the positive results were sustained (i.e., increase in confidence, communication and social skills; improved relationships with staff; decreased levels of self-reported anger; a greater sense of calmness; increased participation in other educational programs; and positive emotional, psychological and behavioral change) [88].

4. Discussion

4.1. Summary

This review has systematically gathered information about interventions involving active music making with adults in prisons and forensic psychiatric facilities. Articles and reports were found around the globe, describing interventions in the USA, the UK, New Zealand, the Netherlands, Portugal, and Israel. Comparatively speaking, a large number of qualitative articles were found. The interventions and outcomes were described against the background of diversified research approaches. Quantitative and qualitative studies were included as well as descriptions of music programs and narrative articles, focusing on music therapy, educational

music making, choir interventions and musical projects. This combination of resources makes it difficult to compare or combine the outcome, as they incorporate quantitative measures on the impact of musical interventions and qualitative methods and personal reflections that picture the processes, individual interactions and personal impressions. Due to different approaches, methodological weaknesses and the exploration of different questions in various social and cultural contexts within a variety of criminal justice settings, the data is hardly comparable and it is impossible to universalize the findings or conclusions. However, some common aspects emerged, as noted below.

Working in the prison setting, the music therapist or the music educator meets a great variety of patients, in different phases of their lives and with various diagnoses (if indicated), offences, characters and antithetic manners of behavior which often are influenced by or dependent upon environmental factors of a setting based on deprivation of liberty. The authors report on several difficulties and particularities when working in a prison setting, which Cohen [48] summarizes in three aspects regarding choir practice but which may be applied to other settings as well: (1) reasons why inmates are unable to attend rehearsals” (i.e., “infractions, activity conflicts, personal reasons) [48]; (2) specific correctional facility rules (i.e. security rules and access to musical scores between rehearsals); and, (3) issues regarding prison staff (i.e. tension caused by unnecessary authoritative behavior by staff, communication inefficiencies, etc.) [48, p. 327].

The review found various kinds of musical interventions, such as individual and group work, music therapy interventions, choir interventions, singing, playing in a band or an orchestra, improvising, playing musical games, with male and female offenders in forensic psychiatries and prisons with different security levels. According to the reports music making in certain cases - even without a primary therapeutic goal - can have various positive, therapeutic impacts on the clients and participants, including improvement in the cognitive, psychological, physical, behavioral, musical and social field. The review revealed that music making is used as a positive resource for the “here and now”, fostering improvement in social and communication skills, countering racial biases, increasing self-esteem, relaxation skills and well-being. In addition to that, especially in therapeutic settings, it may function as a safe place to help participants get in touch with (difficult) feelings, their past, their offence and decrease their denial. These goals maybe achieved by short-term treatment or long-term treatments as Huckel’s two case studies [84] with elderly prisoners serving life sentences and Glyn’s case study [87] give examples of how in this individual treatment, long-term treatment may impact prisoners.

Music is described as having the potential to attract participants that refuse to engage in other treatment. Moreover, articles report that mixed choir programs proved to be a successful tool to bring volunteers and prisoners together, enabling the prisoners to improve social skills and form new bonds and giving the volunteers the possibility to reflect their

opinion on prisoners and the justice setting. Other examples suggest how music classes or simple music making might affect participants' commitment in other educational programs and that these activities may lead to therapeutic impacts. Furthermore, examples are given how music therapy can be embedded in various treatment approaches such as the CAT, the CBT or in certain treatment programs such as anger management programs or substance abuse treatment programs. The book "Forensic Music Therapy" [56] contains 12 essays on music therapy in forensic settings. Including a "research"- chapter, the model "Group Cognitive Analytic Music Therapy (G-CAMT)" is introduced, which is described as "an integrative, time-limited approach that uses cognitive analytic tools and structures [93] combined with psychodynamic musical techniques that are regularly used in music therapy clinical practice" [94]. In another essay published in this book the authors describe using CAT concepts in music therapy adhering to a treatment manual and they present the results of a controlled music therapy pilot study which investigated the G-CAMT in a women's enhanced medium secure setting [95]. When music therapy is paired with another established treatment, the therapists should also be encouraged to investigate how the hybrid combination works and which advantages lie in adding another treatment orientation to music therapy.

The included articles tell strong stories about the positive, all-round potential of music and show that there are many practitioners with creative ideas bringing music to prisons and forensic psychiatry. Yet, as many of them only describe single, individual cases and many aspects of methodological weaknesses limit existing quantitative studies, such as small sample sizes and no randomization, the outcomes are inconclusive.

Further research is needed, to investigate the impacts of music making on offenders. As already stated in the review by Daykin et al. [49] about the impacts of music making in the youth justice settings. "Studies that seek to measure outcomes should adopt, where possible, a randomized controlled trial approach, using power calculations for determining sample size. Credible qualitative research is also needed, with findings that are not only contextualized in terms of the broader literature, but strongly emergent from primary research" [49, p. 11]. Another systematic review on general arts with offenders by Meekums and Daniel [96], mentions the value of qualitative, narrative and auto-ethnographical approach to research, but also generally criticizes methodological problems of the reviewed studies as the limitations make it difficult to draw any firm conclusions regarding the impact and value of arts activities with offenders. On the one hand, studies based on specific qualitative research designs provide valuable and important literature for therapists and musicians who work in the forensic setting. Practitioners might find themselves in similar situations, and e.g. case studies may help to open new ways how to treat a patient or how to solve a certain problem. On the other hand, quantitative, where possible, randomized controlled studies are needed to

measure changes and to prove effectiveness of music making in a larger context and thus e.g. convince more forensic institutions to offer music as a leisure activity or an alternative treatment method.

Furthermore, in many research studies it seemed that the music therapist was the therapist, the collector of data, and the interpreter of the data. These processes performed by the same person contaminate the data and render the results as unreliable due to possible researcher bias. This problem does not appear in most credible psychotherapy, psychology and medical research. Some of the better outcome studies in music therapy are currently using a research team with members having specific blinded roles so as to not consciously or unconsciously influence the data. This practice should be encouraged, as it will enhance to external recognition of the research.

4.2. Limitations

This systematic review of the literature has several limitations. It was limited to articles written in English language and published in a journal. The search identified several books, articles in collections of essays, theses and dissertations, which were not included but certainly are valuable sources for the topic. Some additionally identified publications indicated to be significant, but could not be retrieved in full text and several articles did not meet the inclusion criteria and were therefore excluded, but are still regarded to providing significant information. To meet this limitation several important publications will be mentioned in the following and we provide a reading list on the topic, that is available online only.

Hoskyn's [97] article from 1988, in which she examines if personal construct theory (Kelly's personal construct theory [98]) is helpful to study the complex process of music therapy using the example of an adult recidivist offender music therapy group at a Probation Day Training Center. This method involves the clients themselves in planning and monitoring the process and requires verbal and reflection abilities of the patients, which on the one hand carries a strong risk of bias but on the other hand, the subjectivity may be regarded as strength in this specific group of clients [97].

Another interesting article not included in this review was written by Harbert [99]. The author displays the function African-American work songs once had and how music functions today for several prison inmates at the Louisiana State Penitentiary in Angola, after "the brutal practices of Southern prisons ended" [99, p. 65]. For the inmates, music making during their leisure time "enables a communal sanctuary" [99, p. 66], and provides transcendent experiences but at the same time music works for the facility itself, expressing an image of reform to the public and regulating inmates behavior. An example is given how this aspect may cause tension [99]. There are also articles not included in this review, which focus on music education in prisons, such as the

article by Shieh in which he suggests a framework for music education in prisons [100].

For further information on choir work, two articles written by Cohen might be interesting, i.e. one interview [101] she conducted with Elvera Voth and one historical investigation about Elvera Voth and Robert Shaw [102]. Elvera Voth founded the East Hill Singers, introducing a mixed choir with prisoners and volunteers in Kansas in 1995, which has developed into an internationally known choir. After working together with Robert Shaw on a singalong to support prison choirs, “the non-profit organization Arts in Prison, Inc began in 1998 in order to develop other arts-based programs for prisoners” [102]. The articles reflect their friendship and work, and their commitment for social justice including musical choral work with prisoners [101,102].

Another article which was not included but appears to be important is Hakvoort’s [103] article about “Making offence-related behavior observable; Music Therapy as an assessment tool for forensic psychiatric patients”. The author developed a standardized musical assessment tool based on her experience with over 450 forensic patients. During music therapy observation she assesses three “manners of functioning”, (i.e. offence-related behavior, coping skills and conduct skills) through several well-defined musical assignments, and scores this functioning on three fields of assessment (i.e. musical, social-emotional and common behavior) determining the “range of music therapy observation” and defining “the role of music therapy within the multi-disciplinary fields of forensic assessment”. The author also describes methodological concepts for a music therapy assessment including (1) the importance of overt and active behavior, (2) provoking habitual versus situational behavior, and (3) the use of scientific methods. The author stresses that music therapy can evoke important situations in which a patient acts, reacts and expresses himself, and that it is essential for his treatment to use these experiences to learn new behavior strategies. Music therapy, as well as other creative therapies, have an advantage over verbal-oriented therapies in that they provide the opportunity to observe a patient’s action and to actively intervene and experiment with this behavior [103]. However, contra-indications are also described.

Receptive techniques have not been the topic in this review but there are articles that suggest positive outcomes, e.g., Bensimon and Gilboa’s [104] article which suggests an increase in the sense of purpose in life through the technique of musical presentation for ex-prisoners from a drug-abuse rehabilitation program [104]. Also Spang’s [59] article describes how an initial receptive approach can lead to active music making. Another successful example of rehabilitative music-listening groups is given by Reed [63].

4.3. Conclusion

Research has shown that mental and physical health problems are common within the prison population [105-107]. Actually, prisons and jails have higher rates of mentally ill

individuals than the non-incarcerated community [108,109]. In addition to mental health problems, substance abuse and communicable diseases are essential in prisons [110]. A unique combination of different factors such as mental and physical illnesses, high rates of blood-borne viruses, drug addiction, unemployment, homelessness, poor education and social exclusion displays the complexity of prisoners health needs [111]. Family issues and anxieties related to the judicial affairs and the prisoners personal future often worsen the situation. Nearly all prisoners experience depressed moods, stress symptoms and each year several thousand prisoners commit suicide during imprisonment [112]. Despite of these facts, treatment in prisons often is insufficient [113]. For example, many prisoners using drugs before imprisonment never experience any treatment [111], and therefore return into their communities with untreated, sometimes even worsened physical and psychiatric distresses increasing the public health burden. Furthermore, psychiatric morbidity might be associated with reoffending [114].

Music therapy gained attention as an alternative treatment option to address these issues within all kinds of penal facilities. This review aimed to summarize the current evidence on musical interventions involving active music-making with adults in the forensic settings. Common issues emerged in terms of the reported effects of the interventions (i.e., increase in relaxation skills, social skills and personal growth; the difficulties of working in forensic settings (i.e., security, institution and the inmates’ personal issues), or the interventions used (e.g. improvising, playing in a band, singing, songwriting).

Considering all arts therapies, Smeijsters & Cleven [45] state that “a shared rationale of arts therapists is that by expressing thoughts, feelings and actions in art forms it is possible to influence these expressions “hands on” and explore and develop new thoughts, feelings and actions” [45, p. 51]. Musical interventions, as opposed to verbal oriented therapies, give the patient the possibility to act in new ways, in different situations in order to help him or her to develop and to learn new behavior strategies [103]. In addition to this, many prisoners report that music making became their new hobby. They discover that music making can be a fun activity and that they feel devoted to their instruments and to the music. As participating in a music group demands time for rehearsals and for practicing, participants need to texture their musical activities and let make music become a part of their daily living. Participating in a music program can therefore be a way for inmates to learn how to work in a goal-oriented way. To achieve a goal such as performing in a concert, many smaller steps need to be taken involving cognitive, emotional, musical and social skills. For example, participants need to learn how to work in a team and simultaneously take over responsibility for their own musical part. Furthermore, the inmates have the possibility to contribute their own, creative ideas and to think of ways how to put them into practice. As the day of the performance approaches, the inmates experience a sense of excitement preparing their musical work

for public presentation. Besides presenting their developed musical skills, performing music in front of an audience (that might include family members) also means expressing emotions, which often requires a lot of overcoming. Such performances and performing a song for the first time successfully during rehearsals, come a long with thrilling experiences and a sense of achievement and thus may enhance self-esteem as a performer. Exercising and attending rehearsals requires a high level of discipline and the ability to focus on the task. Sometimes prisoners might also have to save money in order to buy a new instrument. They can learn to appreciate the beauty of music and thus, the music making itself and the process of preparing a performance provides a contrast to the drab gray sunless prison atmosphere. Performances outside the prison facility may furthermore be a way to counteract prejudices.

It is evident that there are many practitioners with professional background (e.g. musicians and music therapists) developing various creative ideas in their work with clients in the forensic setting. Regarding the positive reports and outcomes summarized in this review, it becomes clear that music is a promising way to address the specific needs of inmates. The treatment approaches and outcomes described in this review do not differ much from the literature on the application of music therapy within other health domains (e.g. psychiatry). For example, many studies show that music can promote relaxation, and has positive effects on pain and stress regulation including the metabolic recovery from stress [115-117]. However, music therapy within this specific setting is unique due to the environmental challenges and due to the special situation of the clients. Of particular interest is the therapist-client relationship that is potentially one-of-a-kind within this particular field. On the one hand the music therapist is there to help the prisoners and on the other hand he or she is part of the society from which the prisoner is taken out. Furthermore, security rules and visible alarm triggers which are often carried by staff and therapists, implicating an imbalance in the power relation between therapist or staff and the prisoner. The complexity of the prison environment therefore has a significant influence on the therapist-client relationship as well as on the content of therapy session or the inmates' behavior. Paradox situations might derive from such a setting. For example, inmates sent to a forensic psychiatry for treatment may experience disadvantages if they benefit from therapy, once they get sentenced or sent back to the prison facility. However, the interventions described within this review took place in different countries (USA, UK, New Zealand, the Netherlands, Portugal and Israel) in forensic psychiatry settings as well as in prison settings with varying security levels, ranging from minimum to maximum. It should be taken into account, that speaking about the law, each country is different. In some countries no forensic psychiatry exists and all prisoners are accommodated only in prisons. These cultural aspects need to be considered when working or conducting studies within the forensic setting.

Finally, all these experiences, acquired skills and positive humanizing and civilizing effects may help prisoners on their way back into society. This said, many positive implications can be drawn from music-based interventions and prison institutions should be encouraged to offer music and music therapy to the inmates. As in prison institutions the financial resources often become less and less, music and music therapy is an advantageous, low cost, safe and easy to administer treatment method that can be applied in various settings to improve the inmates sleep quality, to help with pain management, to reduce levels of stress and thus enhance the quality of life of the prisoners, leading to significant improvements for the whole environment.

Based on this review, future research should focus on further investigating the effects of music based interventions on psychosomatic symptoms with high prevalence in the prison population, to justify the use of this therapeutic approach, by demonstrating significant impact on the prison environment. Furthermore, studies addressing the long term effects of music making and the impact of long term exposure to music are significant issues that need to be addressed. Several studies indicate a positive long-term effect after participating in a music program (i.e. increase in confidence, communication and social skills; improved relationships with staff; decreased levels of self-reported anger; a greater sense of calmness; increased participation in other educational programs; and positive emotional, psychological and behavioral change). As some prisoners also report that they use skills they learned during a music program in prison to earn a living after release, follow-up studies are of great interest. Still there is a general need for follow-up studies to investigate the long-term effects of musical programs and to examine the possible impact of music making on recidivism rates. Also existing, well-developed programs providing a good theoretical framework, such as Hakvoort's anger management [44], musical assessment [104] or Hakvoort's and Bogaert's [50] theoretical foundation for cognitive behavioral music therapy need to be further applied and systematically investigated. More research is needed to investigate the interface between therapeutic music making and general music making in forensic settings for leisure or aiming at educational aspects. Silber's [30] study indicates several overlaps and some articles on educational projects or music making in prisons, though being exposed to strong bias, report positive "therapeutic" effects of the music programs in general (e.g., Rodrigues' [73] music making for incarcerated mothers with babies). Furthermore, alternative outcomes with the environment, such as the effect of music making on the influence on the willingness to participate in other educational programs, the effects on the communication between inmates and staff as indicated by some studies, and cultural differences seem of interest. Another field not mentioned in this review and potentially interesting to investigate further could be the aspect of general access to music for inmates in correctional facilities. Some inmates use special services by different providers to purchase prison-issue Mp3 players and download

music from certain systems which are specifically designed for prison settings [118].

Based on this review we can generally state, that (1) music therapy and music (e.g. singing, improvising) is widely applied in forensic psychiatry and prisons (2) music therapists (and other related professionals) are working with a great variety of patients (e.g. different diagnoses, offences, behaviors influenced by deprivation of liberty); (3) music therapists are facing difficulties in the prison setting (e.g. reasons why inmates cannot attend rehearsals, facility rules, issues regarding prison staff) that are seeking for individual solutions; (4) music making is often found to have therapeutic impact without a primary defined therapeutic goal; (5) humanizing effects and improvements in social/communication skills, countering racial biases (e.g. mixed choirs), increasing self-esteem/relaxation/well-being are described within the literature; (6) music therapy is experienced as a safe place to get in touch with feelings, the past, the offence by prisoners; (7) music therapy could be reasonable in a long term and short term forensic setting; (8) musical interventions can be used to explore and learn new behavior strategies; (9) music attracts prisoners who refuse other treatment options and participants in music programs might display more engagement in other educational activities.

References

*indicates that references were included in the systematic review

84. *Huckel M. Music therapy with elderly “lifer” prisoners: who wants to know? *Musiktherapeutische Umschau*, 2008. Available at: <http://www.musiktherapie.de/> Accessed: June 28, 2013
85. *Cohen J. Music therapy with the overcontrolled offender: theory and practice. *Art Psychother.* 1987;14:215–221.
86. *Dickinson C. Beyond body, beyond words: cognitive analytic music therapy in forensic psychiatry—new approaches in the treatment of personality disordered offenders. *Music Therapy Today*. 2006;7(4):839-875.
87. *Glyn J, New York mining disaster. *British Journal of Music Therapy*. 2003;17(2)
88. *Wilson D, Atherton S, Caulfield L. Good vibrations: the long-term impact of a prison-based music project. *Prison Service Journal*. 2009;182:27-32
89. *Mendonça M. Gamelan in Prisons in England and Scotland: Narratives of Transformation and the “Good Vibrations” of Educational Rhetoric. *Ethnomusicology*. 2010;54(3)
90. Information Available at: [\[LINK\]](#) [\[LINK\]](#), Accessed: July 11, 2013
91. Wilson D, Logan M. Breaking Down Walls—the Good Vibrations Project in Prison. Birmingham: Centre for Criminal Justice Policy and Research 2006
92. Clements P. The Rehabilitative Role of Arts Education in Prison: Accommodation or Enlightenment?. *The Int J Art Des Educ*. 2004;23(2):169–78.
93. Ryle A, Kerr IB. *Introducing Cognitive Analytic Therapy: Principles and Practice*. Chichester: John Wiley & Sons. 2002.
94. Sleight V, Compton Dickinson S. Risks, Ruptures and the Role of the Co-therapist in Group Cognitive Analytic Music Therapy (G-CAMT). In Compton Dickinson S, Odell-Miller H, Adlam J. eds. *Forensic Music Therapy*. Jessica Kingsley Publishers. 2012:169
95. Lawday R, Compton Dickinson S. Integrating Models for Integrated Care Pathways. *Introducing Group Cognitive Analytic Music Therapy (G-AMT) to a Women's Enhanced Medium Secure Setting (WEMSS)*. in Odell-Miller H, Adlam J. eds. *Forensic Music Therapy*. Jessica Kingsley Publishers. 2012:184-203.
96. Meekums B, Daniel J. Arts with offenders: A literature synthesis. *Art Psychother.* 2011;38(4):229-238
97. Hoskyns S. Studying Group Music Therapy with Adult Offenders: *Research in Progress. Psychol Music*. 1988;16(1):25-41.
98. Kelly GA. *The Psychology of Personal Constructs*. Vols. 1 and 2. New York: Norton. 1955.
99. Harbert BJ. I'll keep on living after I die: Musical manipulation and transcendence at Louisiana State Penitentiary. *IJCM*. 2010;3(1):65-76.
100. Shieh E. On punishment and music education: Towards a practice for prisons and schools. *IJCM*. 2010;3(1):19-32.
101. Cohen ML. Risk taker extraordinaire: An interview with Elvera Voth. *IJCM*. 2010;3(1):151-156.
102. Cohen ML. “Mother Theresa, How Can I Help You?” The Story of Elvera Voth, Robert Shaw, and the Bethel College Benefit Sing-Along for Arts in Prison, Inc. *IJCM*. 2008a; 3(21):4-22.
103. Hakvoort L. Making offence-related behavior observable; Music therapy as an assessment tool for forensic psychiatric patients. *Special Edition Dutch J Music Ther, NVvMT*, 2007:5–13
104. Bensimon M, Gilboa A. The music of my life: The impact of the Musical Presentation on the sense of purpose in life and on self-consciousness. *Art Psychother.* 2010;37(3):172-178.
105. Fazel S, Danesh J. Serious mental disorder in 23000 prisoners: a systematic review of 62 surveys. *Lancet*. 2002;359(9306):545-50.
106. Kjelsberg E, Hartvig P, Bowitz H, et al. Mental health consultations in a prison population: a descriptive study. *BMC psychiatry*. 2006;6(1):27.
107. Fazel S, Seewald, K. Severe mental illness in 33 588 prisoners worldwide: systematic review and meta regression analysis. *Br J Psychiatry*. 2012;200(5):364-373.
108. Diamond PM, Wang EW., Holzer III, CE, Thomas C, Cruser A. The prevalence of mental illness in prison. *Administration and Policy in Mental Health and Mental Health Services Research*. 2001;29(1):21-40.
109. Brinded PM, Simpson AI, Laidlaw TM, Fairley N, Malcolm F. Prevalence of psychiatric disorders in New Zealand prisons: a national study. *Aust N Z J Psychiatry* 2001;35:166-173.
110. Watson R, Stimpson A, Hostick T. Prison health care: a review of the literature. *Int J Nurs Stud*. 2004;41(2):119-128.
111. Rutherford M, Duggan S. Meeting complex health needs in prisons. *Public Health*. 2009;123(6):415-418.
112. Moeller L, Gatherer A, Jürgens R, Stöver H, Nikogosian H. (Eds.) *Health in Prisons: A WHO guide to the essentials in prison health*. WHO Regional Office Europe. 2007.
113. Andersen HS. Mental health in prison populations. A review—with special emphasis on a study of Danish prisoners on remand. *Acta Psychiatr Scand*, 2004;110(suppl 424):5-59.
114. Fazel S, Baillargeon J. The health of prisoners. *The Lancet*. Published online. 2011;377(9769):956-65.
115. Yamasaki A, Booker A, Kapur V, et al. The impact of music on metabolism. *Nutrition*. 2012;28:11-12
116. Koenig J, Warth M, Oelkers-Ax R, et al. I Need to Hear Some Sounds That Recognize the Pain in Me: An Integrative Review of a Decade of Research in the Development of Active Music Therapy Outpatient Treatment in Patients With Recurrent or Chronic Pain. *Music and Med*. 2013;5(3):150-161.
117. Wang CF, Sun Y, Zang, HX Music therapy improves sleep quality in acute and chronic sleep disorders: A meta-analysis of 10 randomized studies. *Int J Nurs Stud*. 2013. <http://dx.doi.org/10.1016/j.ijnurstu.2013.03.008>
118. Peisner D. Captive Audience the Music business in America's prisons. *SPIN magazine*. 2013. Available at: [\[LINK\]](#), Accessed: June 30, 2013

Biographical Statements

Biljana V. Coutinho, MA, is a research associate at the School of Therapeutic Sciences, SRH University Heidelberg. She is a professional piano teacher (B.Mus) and received her Master's degree in Music Therapy at the SRH University Heidelberg.

Anita L. Hansen, PhD, is an associate professor at the University of Bergen, Department of Psychosocial Science. Her research interests are experimental intervention studies with focus on psychophysiology and executive function.

Leif Waage is Deputy Regional Director for the Correctional Service Western Norway. He is trained as specialist in clinical psychology and in organizational psychology and connected to the Centre for Research and Education in Forensic Psychiatry, Haukeland University Hospital. He is member of The Mental Health, Law, and Policy Institute at Simon Fraser University, Vancouver, Canada.

Thomas K. Hillecke, Dr. sc. hum., is Professor of Clinical Psychology and dean of the School of Therapeutic Sciences, SRH University Heidelberg, Germany.

Julian Koenig, Dr. sc. hum., is a post-doctoral researcher at the Department of Psychology, The Ohio State University.

Appendix A: Supplementary Material

Extended reading list on references identified by the search strategy applied (alphabetical order)

- Abdollahnejad M. The role of music therapy in helping drug dependants. In *Collected Work: Music therapy and addictions*. 2010:75-87.
- Abrahams F, Rowland MM, Kohler KC. Music Education behind Bars: Giving Voice to the Inmates and the Students Who Teach Them. *Music Educ J*. 2012;98(4):67-73
- Abu-Jamal M. 'A rap thing', 'On rapping rap', and 'Hip hop or homeland security'. In *Collected work: The vinyl ain't final: Hip hop and the globalization of blackpopular culture*. 2006:23-26.
- Adler S. Innovations in prisoner rehabilitation: A three-year program. *Dissertation Abstracts International Section A*, 65. 2004.
- Andersen HS. Mental health in prison populations. A review—with special emphasis on a study of Danish prisoners on remand. *Acta Psychiatr Scand*, 2004;110(suppl 424):5-59.
- Anderson K, Overy K. Engaging Scottish young offenders in education through music and art. *IJCM*. 2010;3(1):47-64.
- Anderson T, Daly K, Rapp L. Clubbing masculinities and crime: A qualitative study of Philadelphia nightclub scenes. *Fem Criminol*. 2009;4(4):302-332.
- Baker S, Homan S. Rap, recidivism and the creative self: A popular music programme for young offenders in detention. *J Youth Stud*. 2007;10(4):459-476.
- Barrett MS, Baker JS. Developing learning identities in and through music: A case study of the outcomes of a music programme in an Australian juvenile detention centre. *Int J Music Educ*. 2012.
- Bassett JE, Blanchard EB, Estes LD. Effects of instructional expectancy on relaxation training with prisoners. *J Community Psychol*. 1977;5(2):166-170
- Bellamy N. Psychophysiology of stress and effects of a relaxation intervention in two motivational types of violent crime offenders. *Dissertation Abstracts International Section A*, 62. 2002.
- Bensimon M, Gilboa A. The music of my life: The impact of the Musical Presentation on the sense of purpose in life and on self-consciousness. *Art Psychother*. 2010;37(3):172-178.
- Bergma, M. Death penalty, execution and liturgy. A Perspective from Sweden and North Europe (18 th and 19 th Centuries). *Rev Hist Eccles*. 2011;106(1):97-167.
- Bittman B, Dickson L, Coddington K. Creative musical expression as a catalyst for quality-of-life improvement in inner-city adolescents placed in a court-referred residential treatment program. *Adv Mind Body Med*. 2009; 24(1):8-19.
- Bogdan, T, Cristesco M. Some psychodiagnostic results obtained through the application of polyvalent sound stimuli. *Revue Roumaine Des Sciences Sociales -Série De Psychologie*. 1967;11(2):171-175.
- Bonta J, Andrews DA. Risk-need-responsivity model for offender assessment and rehabilitation. *Rehabilitation*. 2007;6:1-30.
- Boone P. Composition, improvisation, and poetry in the psychiatric treatment of a forensic patient. In *Collected Work: Case studies in music therapy*. 1991:433-449. (AN: 1992-11138)
- Brewster L. The California arts-in-corrections music programme: A qualitative study. *IJCM*. 2010;3(1):33-46.
- Brewster LG. An Evaluation of the Arts-in-Corrections Program of the California Department of Corrections.
William James Association. 1983. Available at: [\[LINK\]](#), Accessed: September 19, 2013
- Brinded PM, Simpson AI, Laidlaw TM, Fairley N, Malcolm F. Prevalence of psychiatric disorders in New Zealand prisons: a national study. *Aust N Z J Psychiatry* 2001;35:166-173.
- Buchanan J. Review of 'Supervision of music therapy: A theoretical and practical handbook'. *Canadian Art Therapy Association Journal*. 2010;23(2):57-58.
- Carlyle T. Love united at HMP community prison bullingdon: A multi-cultural arts project. *Prison Serv J* 2005;(159):34-36.
- Chambers C. Song and metaphoric imagery in forensic music therapy Doctoral dissertation. University of Nottingham. 2008.
- Charters S. Rosetta and the Parchman women's blues. *Living Blues: The Magazine Of The African-American Blues Tradition* 2006;37:66-71.
- Clements P. The Rehabilitative Role of Arts Education in Prison: Accommodation or Enlightenment? *The Int J Art Des Educ*. 2004;23(2):169-78.
- Coddington PA. A comprehensive survey of music therapists practicing in correctional psychiatry. *Music Ther Perspect*. 2002;20(2):56-68.
- Cohen ML. Risk taker extraordinaire: An interview with Elvera Voth. *IJCM*. 2010;3(1):151-156.
- Cohen J. Music therapy with the overcontrolled offender: theory and practice. *Art Psychother*. 1987;14:215-221.
- Cohen JM. Rhythm and tempo in mania. *Music Ther*. 1986;6A(1):13-29.
- Cohen M L. Conductors' perspectives of Kansas prison choirs. *IJCM* 2008;1(3):319-333
- Cohen ML Hallelujah! – Prison Choirs: Studying a Unique Phenomenon. *Choral Journal*. 2007;48(5):47-50.
- Cohen ML. "Mother Theresa, How Can I Help You?" The Story of Elvera Voth, Robert Shaw, and the Bethel College Benefit Sing-Along for Arts in Prison, Inc. *IJCM*. 2008a; 3(21):4-22.
- Cohen ML. Choral singing and prison inmates: Influences of singing in a prison choir. *Journal of Correctional Education*. 2009;60(1):52-65.
- Cohen ML. Christopher Small's concept of musicking: Toward a theory of choral singing pedagogy in prison contexts. Doctoral dissertation. University of Kansas. *Dissertation Abstracts International*. 2007b.

- Cohen ML. Explorations of inmate and volunteer choral experiences in a prison-based choir. *Australian Journal of Music Education*. 2007a;1(1):61–72.
- Cohen ML. Harmony within the walls: Perceptions of worthiness and competence in a community prison choir. *Int J Music Educ*. 2012a;30(1):46–56.
- Cohen ML. Writing between Rehearsals: A Tool for Assessment and Building Camaraderie. *Music Educ J*. 2012b; 98(3):43–48.
- Cooke M K, Cooke G. An Integrated Treatment Program for Mentally Ill Offenders: Description and Evaluation. *Int J Offender Ther Comp Criminol*. 1982;26(1):53–61.
- Coomes R. Tenko revisited. *Nursing times*. 1997;93(49):12
- Cox M. Making Good Use of the Interval: Etymology, Poiesis and Group Processes. *Group Analysis*. 1996;29(3):385–391.
- Crean HF. Youth activity involvement, neighborhood adult support, individual decision making skills, and early adolescent delinquent behaviors: Testing a conceptual model. *J Appl Dev Psychol*. 2012;33(4):175–188.
- Crimmins AM. Identifying and quantifying music therapy services within a forensic psychiatric setting serving residents with aggressive and criminal behavior. *Dissertation Abstracts International*, 72. 2012.
- da Costa C, dos Santos M, Franco K, de Oliveira Brito A. Música e transformação no contexto da medida socioeducativa de internação. *Psicologia: Ciência E Profissão*. 2011;31(4):840–855.
- Davieson BA, Edwards J, A descriptive study exploring the role of music therapy in prisons. *Art Psychother*. 2001;28:137–141.
- Daykin N, De Viggiani N, Pilkington P, Moriarty Y. Music making for health, well-being and behaviour change in youth justice settings: a systematic review. *Health Promot Int*. 2012;28(2):197–210.
- De Carlo A, Hockman E. RAP therapy: A group work intervention method for urban adolescents. *Soc Work Groups*. 2003;26(3):45–59.
- Diamond PM, Wang EW., Holzer III, CE, Thomas C, Cruser A. The prevalence of mental illness in prison. *Adm Policy Ment Health*. 2001;29(1):21–40.
- Dickinson C. Beyond body, beyond words: cognitive analytic music therapy in forensic psychiatry—new approaches in the treatment of personality disordered offenders. *Music Ther Today*. 2006;7(4):839–875.
- Dickinson S, Souflas P. Rapping round the system: A young Black man's journey through a high-security hospital. In Hadley S, Yancy G. eds. *Therapeutic uses of rap and hip-hop*, Routledge/Taylor & Francis Group, New York, NY US. 2012:353–373.
- Donnenwerth AM. Song communication using rap music in a group setting with at-risk youth. In Hadley S, Yancy G, eds. *Therapeutic uses of rap and hip-hop*. Routledge/Taylor & Francis Group. New York, NY US; 2012:275–290.
- Duerkson GL, Darrow A. Music class for the at-risk; a music therapist's perspective. *Music Educ J*. 1991;78:46–50.
- Dunphy K. A creative arts performance program for incarcerated women. *Art Psychother*. 1999;26(1):35–43.
- Eisenman R. Creative Prisoners: Do They Exist?. *Creat Res J*. 1999;12(3):205–210.
- Elliot JG. The treatment of serious juvenile delinquents in Massachusetts. *Educational Psychology in Practice*. 1987;3(2):49–52.
- Elliot TG. A Study of Psychology of a Non-Verbal Methodology Inherent in the Teaching of Instrumental Music as Observed in a Program for Adult Offenders. DMA Music Education dissertation. Boston University School for the Arts. 1981.
- Elsila M. Music behind bars: Liberatory musicology in two Michigan prisons. MA Musicology-Ethnomusicology thesis, Ann Arbor: University of Michigan. 1995.
- Fazel S, Baillargeon J. The health of prisoners. *The Lancet*. Published online. 2011;377(9769):956–65.
- Fazel S, Danesh J. Serious mental disorder in 23000 prisoners: a systematic review of 62 surveys. *Lancet*. 2002;359(9306):545–50.
- Fazel S, Seewald, K. Severe mental illness in 33 588 prisoners worldwide: systematic review and meta regression analysis. *Br J Psychiatry*. 2012;200(5):364–373.
- Fierro J. Free inside: The music class at Santa Ana Jail. *IJCM*. 2010;3(1):143–150.
- Fisher D. Mediating kinship: country, family, and radio in Northern Australia. *Cult Anthropol*. 2009;24(2):280–312.
- Fisher-Giorlando M. Prison culture: Using music as data. Phd doctoral dissertation. Ohio State University. 1987.
- Fletcher, C. (1964): Beat and gangs on Merseyside'. *New Society*. 73(20): 11ff
- Freistedt RR. Alternatives to violence: An integrated curriculum for group treatment of male batterers. *Dissertation Abstracts International*, 61. 2001
- Fulford M. Overview of a music therapy program at a maximum security unit of a state psychiatric facility. *Music Ther Perspect*. 2002;20(2):112–116.
- Gallagher LM, Steele AL. Music therapy with offenders in a substance abuse/mental illness treatment program. *Music Ther Perspect*. 2002;20(2):117–122.
- Gardstrom SC. Music Exposure and Criminal Behavior: Perceptions of Juvenile Offenders. *J Music Ther*. 1999;36(3):207.
- Gardstrom SC. Positive Peer Culture: A working definition for the music therapist. *Music Ther Perspect*. 1987
- Geidel M. Supermaxes, Stripmines, and Hip-Hop. *J Pop Music Stud*. 2005;17(1):67–76.
- Glyn J, New York mining disaster. *Br J Music Ther*. 2003;17(2)
- Glyn J. Drummed out of mind: A music therapy group with forensic patients. In *Collected Work: Music therapy and group work: Sound company*. 2002;43–62 (AN: 2002-23607)
- Grant MJ, Möllemann R, Morlandstö I, Christine Münz S, Nuxoll C. Music and Conflict: Interdisciplinary Perspectives. *Interdiscip Sci Rev*. 2010;35(2):183–198.
- Greene RJ, Hoats DL, Dibble WA. Generalization of the aversive effect of music distortion. *Psychol Rec*. 1975.
- Gregory S. Collaborative approaches: Putting colour in a grey area. *IJCM*. 2010;3(3):387–397.
- Hakvoort L, Bogaert, S. Theoretical foundations and workable assumptions for cognitive behavioral music therapy in forensic psychiatry. *Art Psychother*. 2013;40(2):192–200.
- Hakvoort L, Bogaerts S, Spreen M. (Dys) Functional behavior in forensic psychiatric patients: Study of analogy between music therapy and group work. *Art Psychother*. 2012;39(4):304–313.
- Hakvoort L. A music therapy anger management program for forensic offenders. *Music Ther Perspect*. 2002;20(2):123–132.
- Hakvoort L. Making offence-related behavior observable; Music therapy as an assessment tool for forensic psychiatric patients. *Special Edition Dutch J Music Ther, NVvMT*, 2007:5–13
- Hans J. The relation between heavy metal music and delinquent behavior in a rural adolescent sample. *Dissertation Abstracts International*, 63. 2002.
- Harbert BJ. Doing time: The work of music in louisiana prisons. Doctoral dissertation. University of California, Los Angeles. 2010.
- Harbert BJ. I'll keep on living after I die: Musical manipulation and transcendence at Louisiana State Penitentiary. *IJCM*. 2010;3(1):65–76.
- Harding CG, Safer LA., Kavanagh J, et al. Using live theatre combined with role playing and discussion to examine what at-risk adolescents think about substance abuse, its consequences, and prevention. *Adolescence*. 1996;31(124):783–796
- Harrison K. 'Singing my spirit of identity': Aboriginal music for well-being in a Canadian inner city. *Musicultures*. 2009;36:1–21
- Harvey L. Creativity inside and outside prison walls: A journey of inspiration. *IJCM*. 2010; 3(1):129–132.
- Hash PM. The Chicago Reform School Band: 1862–1872. *J Res Music Educ*. 2007;55(3):252–267
- Heide KM. Associate editor's editorial: Killing words. *Int J Offender Ther Comp Criminol*. 1997;41(1):3–8.

- Hess CD. An appraisal of the program of music education at the California Institute for men. MA thesis. Claremont College, Claremont. 1956.
- Hirsch LE. "Do You Really Want to Hurt Me?" Music as Punishment in the United States Legal System. *Pop Music Soc.* 2011;34(1):35-53.
- Hodgson A. Opera inside opens doors. *Opera (GB) (United Kingdom)*, 49. 1998.
- Hodson RG. A survey of music education programs in state prisons. M.M.Ed. thesis. University of Denver, Denver.1951.
- Hoskyns S. Studying Group Music Therapy with Adult Offenders: Research in Progress. *Psychol Music.* 1988;16(1):25-41.
- Hoskyns SL. The use of simple rating scales to assess changes in activity during group music therapy. In Gilroy A, Lee C. eds. *Art and Music: therapy and Research.* London: Routledge; 1995:138-151.
- Huckel M. Music therapy with elderly "lifer" prisoners: who wants to know? *Musikther Umsch.* 2008.
- Hughes J. Doing the Arts Justice: A Review of Research Literature, Practice and Theory. 2005. Available at: [\[LINK\]](#), Accessed: November 18, 2013
- Hunter ME, Love CC. Total quality management and the reduction of inpatient violence and costs in a forensic psychiatric hospital. *Psychiat serv. (Washington, DC)* 1996;47(7):751
- Jackson B. Worksong and toast: Two dead genres. In *Collected Work: History and tradition in Afro-American culture.* 1985:244-255. (AN: 1991-05850)
- Jail Guitar Doors USA (2013): Accessible at: [\[LINK\]](#), Accessed: July 1, 2013.
- Johnson ER. The role of objective and concrete feedback in self-concept treatment of juvenile delinquents in music therapy. *J Music Ther.* 1981;18(3):137-147.
- Kanazawa S. Why productivity fades with age: The crime-genius connection. *J Res Pers.* 2003;37(4):257-272.
- Kennedy R. The effects of musical performance, rational emotive therapy and vicarious experience on the self-efficacy and self-esteem of juvenile delinquents and disadvantaged children. Doctoral dissertation. University of Kansas. 1998.
- Kjelsberg E, Hartvig P, Bowitz H, et al. Mental health consultations in a prison population: a descriptive study. *BMC psychiatry.* 2006;6(1):27.
- Landreville DJ. Comparative study of the uses of music at the Montana State Prison with Prisons of the Northwest area. M.M.Ed. thesis. Montana State University, Bozeman. 1956.
- Lawday R, Compton Dickinson S. Integrating Models for Integrated Care Pathways. Introducing Group Cognitive Analytic Music Therapy (G-AMT) to a Women's Enhanced Medium Secure Setting (WEMSS). in Odell_Miller H, Adlam J. eds. *Forensic Music Therapy.* Jessica Kingsley Publishers. 2012:184-203.
- Lee R. Music education in prisons: A historical overview. *IJCM.* 2010;3(1):7-18
- Lee S. Music in prison. *Prison Serv J.* 2002;139:14-16.
- Licurzi,A. Artistas delincuentes y delincuentes artistas. Delinquent artists and artistic delinquents. *Revista De Psiquiatria Y Criminología.* Buenos Aires: 1941.
- Littell, W J. A survey of the uses of music in correctional institutions in the United States. M.M.Ed. thesis. University of Kansas, Lawrence. 1961.
- Lorenzo PJ. "If I was not in prison, I would not be famous": Discipline, Choreography, and Mimicry in the Philippines. *Theatre J.* 2011;63(4):607-621.
- Loth H. Music therapy and forensic psychiatry—choice, denial and the law. *Br J Mus Ther.* 1994;8(2):10-18.
- Loth H. Music therapy. In Cordess C, Cox M. eds. *Forensic psychotherapy: Crime, psychodynamics, and the offender patient: Vol. 2. Mainly practice* (pp. 561-566). Bristol, PA: Jessica Kingsley Publishers. 1996.
- Lotter C. A Music Therapy Story From Eersterust, South Africa. *Voices: A World Forum for Music Therapy.* 2004;4(2)
- Maddox A. On the Machinery of Moral Improvement: Music and Prison Reform in the Penal Colony on Norfolk Island. *Musicology Australia.* 2012;34(2):185-205
- Madsen CK., Madsen Jr, CH. Music as a behavior modification technique with a juvenile delinquent. *J Music Ther.* 1968;5(3):72-76.
- Mahiri J, Conner,E. Black youth violence has a bad rap. *J Soc Issues.* 59(1): 121-140
- Majno, M. (2012): From the model of El Sistema in Venezuela to current applications: learning and integration through collective music education. *Ann N Y Acad Sci.* 2003;1252(1):56-64.
- Meekums B, Daniel J. Arts with offenders: A literature synthesis. *Art Psychother.* 2011;38(4):229-238
- Mendonça M. Gamelan in Prisons in England and Scotland: Narratives of Transformation and the "Good Vibrations" of Educational Rhetoric. *Ethnomusicology.* 2010;54(3)
- Mendonça M. Prison, music and the rehabilitation revolution: The case of Good Vibrations. *J Appl Arts Health.* 2010;1(3):295-307.
- Menning N. Singing with conviction: New Zealand prisons and Maori populations. *IJCM.* 2010;3(1):111-120.
- Moeller L, Gatherer A, Jürgens R, Stöver H, Nikogosian H. (Eds.) *Health in Prisons: A WHO guide to the essentials in prison health.* WHO Regional Office Europe. 2007.
- Muschert GW. Pop music in the social problems classroom: Its use to illustrate claims-making in a juvenile delinquency course. *Sociological Imagination.* 2006;42(1):11-20.
- Nelson DL. High-risk adolescent males, self-efficacy, and choral performance: An investigation of affective intervention. DMA dissertation. Tucson: Arizona State University. 1997.
- Newbauer JF, Hess SW. Treating sex offenders and survivors conjointly: Gender issues with adolescent boys. *Journal Spec Group Work.* 1994;19(2):129-135.
- Newbold G, Eskridge C. Penal innovation in New Zealand: He ara hou. *J offender rehabil.* 1994;20(3-4):21-35.
- Nolan P. Insight therapy: Guided imagery and music in a forensic psychiatric setting. *Music Ther.* 1983;3(1):43-51.
- Oridell H. A curriculum design to teach music fundamentals in a correctional setting. M.S. Thesis. Tennessee State University, Nashville. 1986.
- O'Rourke A. Prison review: Te ara hou—The new way: A personal reflection. *Annu J New Zeal Soc Music Ther.* 1989;
- Pardue D. Writing in the Margins: Brazilian Hip-Hop as an Educational Project. *Anthropology and Education Quarterly.* 2004;35(4):411-432.
- Payne BK. You're so Vain You Probably Think this Keynote is about You: Expanding Art and Music in Criminal Justice. *Am J Crim Justice.* 2012;37(3):291-305.
- Peisner D. Captive Audience the Music business in America's prisons. *SPIN magazine.* 2013.
- Peisner D. Jailhouse rock. *Spin.* 2009;25(5):70-74.
- Peisner D. War is loud. *Spin.* 2006;22(12):86-92.
- Perkinson R. "Hell Exploded" Prisoner Music and Memoir and the Fall of Convict Leasing in Texas. *Prison J.* 2009;89(1):54-69.
- Petroushin VI. Musical perception as a means of studying a schoolchild's personality. *Voprosy Psichol+.* 1986;1:157-164.
- Phillipov M. Extreme music for extreme people? Norwegian black metal and transcendent violence. *Popular Music History.* 2011;6(1-2):150-163.
- Poge A. Music typologies and juvenile delinquency. *Soz Welt.* 2011;62(3):279-304.
- Reed KJ. Music therapy treatment groups for mentally disordered offenders (MDO) in a state hospital setting. *Music Ther Perspect.* 2002;20(2):98-104.
- Reuer B, Crowe B, Bernstein B. Best practice in music therapy: Utilizing group percussion strategies for promoting volunteerism in the well older adults. Reuer, B. ed. Silver Spring, MD: The American Music Therapy Association, Inc.1999
- Richmiller MG. Study of the residual effects of music education experiences of a prison choir, twenty-nine years after participation. Master thesis. SoutheastMissouri State University, Cape Girardeau. 1992.
- Rio RE, Tenney KS. Music therapy for juvenile offenders in residential treatment. *Music Ther Perspect.* 2002;20(2): 89-97.

- Rodrigues H, Leite A, Faria C, Monteiro I, Rodrigues PM. Music for mothers and babies living in a prison: A report on a special production of "BebéBabá". *IJCM*. 2010;3(1):77–90.
- Rogers H. Singing at yarmouth gaol: Christian instruction and inmate culture in the nineteenth century. *Prison Serv J*. 2012;199: 35-43.
- Rogers T. Bill Miner in Song. *Canadian folk music/Musique folklorique canadienne*. 2008;42(2):9-20.
- Roma C. Re-sounding: Refuge and reprise in a prison choral community. *IJCM*. 2010;3(1):91–102.
- Rosenbaum JL, Prinsky L. The presumption of influence: Recent responses to popular music subcultures. *Crime Delinq*. 1991;37(4):528-535.
- Rutherford M, Duggan S. Meeting complex health needs in prisons. *Public Health*. 2009;123(6):415-418.
- Ryle A, Kerr IB. *Introducing Cognitive Analytic Therapy: Principles and Practice*. Chichester: John Wiley & Sons. 2002.
- Savage J, Challis M. *A Digital Arts Curriculum? Practical Ways Forward*. *Music Educ Res*. 2002;4(1):7-23
- Schneidmuhl AM. *Group psychotherapy program at the Spring Grove State Hospital*. Group Psychotherapy. 1951;
- Shieh E. On punishment and music education: Towards a practice for prisons and schools. *IJCM*. 2010;3(1):19- 32.
- Shields T. *Urban lyrical theory (1980–1990): An analysis of under-represented criminological voices*. Doctoral Dissertation. University Microfilms International (UMI), Ann Arbor. 2002.
- Silber L. Bars behind bars: the impact of a women's prison choir on social harmony. *Music Educ Res*. 2005;7(2):251–271
- Singer S I, Levine M, Jou S. Heavy metal music preference, delinquent friends, social control, and delinquency. *J res crime delinq*. 1993;30(3): 317-329.
- Skaggs R. Music-centered creative arts in a sex offender treatment program for male juveniles. *MUSIC THERAPY-NEW YORK-*. 1997;15:73-78.
- Skyllstad K. Music in prison and freedom: Projects and prospects. Symposium article. 2009.
- Sleight V, Compton Dickinson S. Risks, Ruptures and the Role of the Co-therapist in Group Cognitive Analytic Music Therapy (G-CAMT). In Compton Dickinson S, Odell-Miller H, Adlam J. eds. *Forensic Music Therapy*. Jessica Kingsley Publishers. 2012:169
- Sloboda A, Bolton R. Music therapy in forensic psychiatry: A case study with musical commentary. In *Collected Work: The handbook of music therapy*. 2002:132-148. (AN: 2002-06660)
- Smeijsters H, Cleven G. The treatment of aggression using arts therapies in forensic psychiatry: Results of a qualitative inquiry. *Art Psychother*. 2006;33(1):37–58.
- Smeijsters H, Kil J, Kurstjens H, Welten J, Willemars G. Arts therapies for young offenders in secure care - A practice-based research. *Art Psychother*. 2011;38(1):41–51.
- Sneed P. *Bandidos de Cristo: Representations of the Power of Criminal Factions in Rio's Proibidão Funk*. *LAMR*. 2007; 28(2):220-241.
- Somma D. Music as discipline, solidarity and nostalgia in the Zonderwater prisoner of war camp of South Africa. *SAMUS: South African Music Studies*. 2011;31:71-85.
- Spang S. *Forensic psychology and music therapy*. Annual journal of the New Zealand Society for Music Therapy. 1997; 17-28
- Sporny VW. *The value of music in correctional institutions*. M.Ed. thesis. Duquesne University, Pittsburgh. 1941.
- Staszko G. *A model for a violence prevention program incorporating hip hop music as an intervention strategy*. Dissertation Abstracts International, 67. 2006.
- Steward J, Follina F. Informing policies in forensic settings: a review of research investigating the effects of exposure to media violence on challenging/offending behavior. *Br J Forensic Pract*. 2006;8(2):31-46.
- Stumpf. *Musikalische Veranstaltungen in den Strafanstalten*. *Blätter Für Gefängniskunde*. 1932;62:413-420.
- Sweetland P. Johnny Bragg, 79, a Prisonaires singer. *The New York Times*. 2004.
- Tanner J, Asbridge M, Wortley S. Listening to rap: Cultures of crime, cultures of resistance. *Soc Forces*. 2009;88(2):693-722.
- Thaut MH. A new challenge for music therapy: The correctional setting. *Music Ther perspect*. 1987;4:44-50.
- Thaut MH. The influence of music therapy interventions on self-rated changes in relaxation, affect, and thought in psychiatric prisoner-patients. *J Music Ther*. 1989;26(3):155–166.
- Tiernan J. Céim ar Chéim, Step by Step – Community music programme in an Irish probation centre: A personal reflection. *IJCM*. 2010;3(1):133–142.
- Tunnel KD. 99 Years is Almost For Life: Punishment for Violent Crime in Bluegrass Music. *J Pop Cult*. 1992;26(3):165–181.
- Twani Z. *Music behind bars: Exploring the role of music as a tool for rehabilitation and empowerment of offenders at Mthatha Medium Correctional Centre*. Doctoral dissertation. Faculty of Humanities, University of the Witwatersrand. 2011.
- Twani Z. The musicians behind bars: Can music help renew identities?. In *Collected Work: Music and identity: Transformation and negotiation*. 2007:297-309. (AN: 2007-17946)
- Van De Wall W. *The Utilization of Music in Prisons and Mental Hospitals, its application and care in the treatment of the morally and mentally afflicted*. New York: Committee for the Study of Music in Institutions by the National Bureau for the Advancement of Music. 1924.
- Van Der Laan MC, Hoeven, MGP. Addressing drug abuse in a Dutch forensic hospital. *Crim Behav Ment Health*. 1996;6(2):157–166.
- Various. *Forensic Music Therapy*. Compton Dickinson S, Odell-Miller H, Adlam J. eds. Jessica Kingsley Publishers. 2012.
- Volland A. *Carcelera: Gitano prison songs in the 18th century*. Symposium article. 1990.
- Waite BM, Hillbrand M, Foster HG. Reduction of aggressive behavior after removal of Music Television. *Psychiatr Serv*. 1992;43(2):173-175.
- Walden SS. *Music for the mentally disturbed*. Etude. 63.1945.
- Walker DLR. *A study of music education in community development, continuing education, and correctional programming as reported by state as reported by state arts agency directors in the United States*. Ph.D. dissertation. Nashville: George Peabody College for Teachers of Vanderbilt University. 1980.
- Wang CF, Sun Y, Zang, HX. Music therapy improves sleep quality in acute and chronic sleep disorders: A meta-analysis of 10 randomized studies. *Int J Nurs Stud*. 2013. <http://dx.doi.org/10.1016/j.ijnurstu.2013.03.008>
- Ward T, Stewart C. Criminogenic needs and human needs: A theoretical model. *Psychol Crime Law*. 2003;9(2):125–143.
- Warfield D. *Bowing in the right direction: Hiland Mountain Correctional Center women's string orchestra programme*. *IJCM*. 2010;3(1):103–110.
- Wass H, Miller MD, Redditt CA. Adolescents and destructive themes in rock music: A follow-up. *OMEGA-Journal of Death and Dying*. 1991;23(3):199-206.
- Watson DM. Drumming and improvisation with adult male sexual offenders. *Music Ther Perspect*. 2002;20(2):105–11
- Watson R, Stimpson A, Hostick T. Prison health care: a review of the literature. *Int J Nurs Stud*. 2004;41(2):119-128.
- Webster G. *Hallucinogenic Drugs and the Sound of Rock*. *The Police J*, 1992;65:243.
- White WA, Hall RW. *Group psychotherapy; a symposium*. *Sociometry*. 1945; 8:243-561.
- Wigginton E. *A Song of Inmates*. *Educ Leadersh*. 1994;51(4):64-71.
- Wilson D, Atherton S, Caulfield L. Good vibrations: the long-term impact of a prison-based music project. *Prison Serv J*. 2009;182:27-32
- Wilson D, Matt L. *Breaking Down Walls—the Good Vibrations Project in Prison*. Lincoln: The Firebird Trust. 2006
- Wilson PR. 'Stranger' child-murder: Issues relating to causes and controls. *Forensic Sci Int*. 1988;36(3–4):267–277.
- Winthrop H. Creativity in the Criminal. *J Soc Psychol*. 1965;65(1):41-58.
- Woodward C, Sloth-Nielsen J, Mathiti V. South Africa, the Arts and Youth in Conflict with the Law. *IJCM*. 2008;1(1):69–88
- Wyatt JG. From the field: Clinical resources for music therapy with juvenile offenders. *Music Ther Perspect*. 2002;20(2):80-88.

- Yamasaki A, Booker A, Kapur V, et al. The impact of music on metabolism. *Nutrition*. 2012;28:11-12
- Young R. Can Neds (or Chavs) Be Non-delinquent, Educated or Even Middle Class? Contrasting Empirical Findings with Cultural Stereotypes. *Sociology*. 2012;46(6):1140-1160.
- Zeuch A. Aspects of music therapy in the Sozialtherapeutische Anstalt Baden-Württemberg and in the treatment of patients suffering from cardiac insufficiency as part of a training programme at the university hospital Heidelberg in cooperation with the rehabilitation clinic Kohlhof (Heidelberg)/Aspekte zur Musiktherapie in der Sozialtherapeutischen Anstalt Baden-Württemberg und in der Behandlung herzinsuffizienter Patienten im Rahmen eines Trainingsprogramms des Uniklinikums Heidelberg in Kooperation mit der Rehaklinik Kohlhof, Heidelberg. *Music Ther Today*.. 2002;2(1).
- Zimpfer DG. Group work with juvenile delinquents. *Journal for Specialists in Group Work*. 1992;17(2):116-126.
- Zybert EB. Prison Libraries in Poland: Partners in Rehabilitation, Culture, and Education. *Libr Trends*. 2011;59(3):409-426.

Internet Resources

- Arts Access Aotearoa: (New Zealand) Available at: [\[LINK\]](#), Accessed: July 1, 2013.
- Arts and Culture in Prison: project funded by the European Union within the framework of the Culture Programme 2007-2013 promoted by the Tuscany Region, Fondazione Michelucci (project leader), The Manchester College, Prison Arts Foundation, Berliner Literarische Aktion, Departament de Justícia - Generalitat de Catalunya. Available at: [\[LINK\]](#), Accessed: July 1, 2013.
- Corrections. William James Association. 1983. Available at: [\[LINK\]](#), Accessed: September 19, 2013,
- Good vibrations. 2013. Available at: [\[LINK\]](#)
- Initiative: “Rock im knast”. 2008. Available at: [\[LINK\]](#)
- knastkultur. Available at: www.knastkultur.de by the Department of Justice of the German federal state Rhine–Westphalia. 2013.
- Prisoners Education: Available at: [\[LINK\]](#)
- Prison Arts Foundation. 2010: Available at: [\[LINK\]](#)
- The Irene Taylor Trust "Music in Prisons", registered charity no 1073105) limited company by guarantee no 3637201. Available at: [\[LINK\]](#)
- The Koestler Trust: Registered charity no. 1105759. Limited company no. 4961363. Available at: [\[LINK\]](#)
- William James Association. California Department of Corrections Arts-in-Corrections research synopsis on parole outcomes for participants paroled December 1980 – February 1987. 1987. Available at: [\[LINK\]](#), Accessed: September 19, 2013

Authors (year)	Country	Type / Tutor	Facility	Participants (sex, age, diagnosis...)
Abrahams et al. (2012)	Author: USA	Teacher/students	Prison	Men; comitted affrots to society
Anderson & Overy (2010)	Scotland	Music program/lessons	Her Majesty’s Young Offender Institution (HMYOI) Polmont in Scotland	14 males, 17-21 years (mean age 18.2 age), music (n=4), arts (n=5), control (n=5), variety of sentences: untried, remand, short term and long term
Cohen, J. (1987)	author: USA	Music therapy	Psychiatric unit of Philadelphia prison	a 26-year-old single black male charged with: simple assault, attempted rape, a 30-year-old single black male charged with rape, attempted rape
Cohen, M. (2007)	USA	Choir	Midwestern minimum security state prison	44 male participants, inmates (n = 20) and volunteers (n = 24), volunteers were about 20 years older than inmates
Cohen M. (2009), Experiment 1	author: USA	choir	TCIS ¹ : minimum security correctional facility, no razor wire fence surrounding the property.	All men, TCIS group (n = 10, 23-60 years, mean age 38.30), control group (n = 10, 22-44 years, mean age 34.50), enrolled in a 9-month SAT ⁷ community.
Cohen, M. (2009), Experiment 2	author: USA	Choir	GPIS ² : minimum security unit on 85 acres with razor wire fences surrounding the unit.	TCIS (as in experiment 1); control group (as in experiment 1), male GPIS (n = 13, 19-53 years, mean age 37.85), male VS ³ (n=25, 23-78 years, mean age 57.12).
Cohen, M. (2012)	USA	Choir	Midwest state prison, medium-security	prisoners (n = 22, age 20-70, median age 39), community members (n = 22, 20-64, median age: 52),
Cohen, M. (2012)	USA	Choir	Medium security prison	Prisoners (n = 20), community members (n = 30)
Compton Dickinson (2006)	England	Music therapy	Rampton Hostital	Case 1: British citizen in his 40s, psychopathic and borderline personality disorders. assault and wounding with intent, convicted of indecent assault and burglary
Daveson & Edwards (2001)	authors: Australia	Music therapy	female correctional facility, minimum, medium, or maximum security quarters	Females (n = 7 first three sessions, n = 5 rest of program, 20-45 years), offences: fraud, robbery, and crimes that involved physical injury or harm
Fierro (2010)	USA	Music program/lessons	Santa Ana Jail (SAJ), is a jail, not a prison (pre-sentencing)	22–24 students
Fulford (2002)	USA	Music therapy	North Texas State Hospital	5 one-hour music therapy groups (n = 50 daily), mentally ill offenders
Gallagher & Steele (2002)	USA	Music therapy	Partnership: Recovery Resources and The Cleveland Music School Settlement	SA/MI ⁶ program, group size ranges 5-20 (mean 9; 20-59 years, mean 36); all dually diagnosed with SA/MI ⁶ ; 65-70% also criminal offenders. Some MDO ⁴ -Program.
Glyn (2003)	author: England	Music therapy	Forensic Psychiatry	Patient: white, male, in his mid-40s, paranoid schizophrenia, convicted of rape and violent assault, alcohol abuse (memory loss); denial of offence

Table 1: Included studies by participants and facility; [1] TCIS: therapeutic community inmate singers; [2] GPIS: general population inmate singers; [3] VS: volunteer singers; [4] MDO: Mentally Disordered Offenders; [5]*: Women’s Prison, Rimutaka Prison’s Faith-Based Unit; Christchurch Women’s Prison, Christchurch Men’s Prison, and the Northland Region Corrections Facility; [6] SA/MI; Substance Abuse/Mental Illness; [7] SAT: substance abuse treatment

Authors (year)	Country	Type / Tutor	Facility	Participants (sex, age, diagnosis...)
Hakvoort (2002)	Netherlands	Music therapy	Treatment clinic for forensic patients with mandatory nursing. The program described in this article was developed at the Dr. F. S. Meijersclinic 1999.	Case 1: 39 year old Caucasian male, three personality disorders; convicted for kidnapping, sexual abduction, rape, and attempted manslaughter Case 2: 34 year old Caucasian man; unemployed for a long period and suffered a childhood characterized by physical and mental abuse, offence: child abuse that caused the child to die
Huckel (2009)	England	Music therapy	specialist prison medical unit in the HMP Norwich	2 elder male prisoners, sentenced for life; case 1: Alzheimer, poor hearing, paranoia of being poisoned, multiple sex offender, quiet. (attended 47 sessions); case 2: undisclosed physical illness, former singer, murder, quiet (attended 24 sessions)
Loth (1994)	England	Music therapy	Medium Secure Unit in a general psychiatric hospital	Patients (n = 6); case 1: 23 year old, schizophrenia, assault of a girl; case 2: 29 year old, drug abuse, attacked a man; case 3: 39 year old, aggressive behaviour, thought-disordered, was obsessed with a doctor; case 4: 39 year old, murder, depression, high suicide risk; case 5: 31 year old, assault of a woman, depressions, suicidal, chronic schizophrenia, mild learning difficulties; case 6: 38 year old, grievous and actual bodily harm
Mendoca (2010)	England, Scotland	Music program/lessons	Her Majesty’s Young Offenders’ Institution (HMYOI) Huntercombe and Her Majesty’s Prison (HMP) Brixton	The article explores the overall “Good Vibration” program and does not focus on individual participants
Menning (2010)	New Zealand	Choir	Five prisons participated ⁵	Prisoners (n = 339); only 70 prisoners performed and recorded
Reed (2002)	USA	Music therapy	Atascadero State Hospital	Mentally ill offenders. Music listening group (n = 8-16); Improvisation group (n = 1-6); choir group; deficits in socialization skills, interpersonal skills, and/or self-esteem; all diagnosed with schizophrenia; each committed some type of violent crime against women, long history of criminal behaviour and mental illness.
Rodrigues et al. (2010)	Portugal	Music program/lessons	Estabelecimento Prisional Especial de Santa Cruz do Bispo	Mothers and their children (n = 15)
Roma (2010)	USA	Choir	close security Ohio prison, Warren Correctional	started with 17 men, each week 15-25 men
Silber (2005)	Israel	Choir	maximum security facility, Israeli prison	Female (core n = 7, 17-35 years), sentences for crimes of varying severity

Table 1 (continued): Included studies by participants and facility; [1] TCIS: therapeutic community inmate singers; [2] GPIS: general population inmate singers; [3] VS: volunteer singers; [4] MDO: Mentally Disordered Offenders; [5]*: Women’s Prison, Rimutaka Prison’s Faith-Based Unit; Christchurch Women’s Prison, Christchurch Men’s Prison, and the Northland Region Corrections Facility; [6] SA/MI; Substance Abuse/Mental Illness; [7] SAT: substance abuse treatment

Authors (year)	Country	Type / Tutor	Facility	Participants (sex, age, diagnosis...)
Spang (1997)	New Zealand	Music therapy	Sunnyside hospital forensic psychiatry unit	typical session (n = 9-12 clients, regular core group: 6-7 long term pat. 17-35 years, male); different disorders (organic disorders, psychotic disorders, non-psychotic disorders, personality disorders)
Thaut (1989)	author: USA	Music therapy	Correctional psychiatric hospital inside a closed custody state prison facility.	8 different groups of patients (total n = 50, 18-45 years), 70% primary diagnosis of schizophrenia; one third of all patients carried an additional diagnosis of some form of personality disorder.
Tiernan (2010)	Ireland	Music program/lessons	Irish Probation centre	young offenders after custody on probation or at risk of offending within their own community, age: 17 to 25, In 2000–01 and 2001–02 the LCA (Leaving Certificate Applied) classes consisted of one male and four females, author came back 2005: increased with numbers
Warfield (2010)	USA	Music program/lessons	The Hiland Mountain Correctional Center (HMCC), multi-level adult female center in Eagle River, Alaska	female, offenders orchestra (n = 8-22 between 2003 and 2009)
Watson (2002)	USA	Music therapy	Arizona Community Protection and Treatment Center (ACPTC)	Adult male sexual offenders group (n = 5 increased to 15 over the years), paedophilia, voyeurism, fetishism, and sadism; may also present with other Axis 1 and Axis II disorders and/or psychopathy
Wilson et al. (2009)	England	Music program/lessons	HMP Dovegate (male Category B training prison, privately run); HMP Grendon (category B prison)	7 participants and several staff members

Table 1 (continued): Included studies by participants and facility; [1] TCIS: therapeutic community inmate singers; [2] GPIS: general population inmate singers; [3] VS: volunteer singers; [4] MDO: Mentally Disordered Offenders; [5]*: Women’s Prison, Rimutaka Prison’s Faith-Based Unit; Christchurch Women’s Prison, Christchurch Men’s Prison, and the Northland Region Corrections Facility; [6] SA/MI; Substance Abuse/Mental Illness; [7] SAT: substance abuse treatment

Authors (year)	Main study focus	Research design / measurements	Outcome / results
Abrahams et al. (2012)	Description of a music (choir) program, personal reflection; goal: to build community, provide inmates with opportunities for sharing, improvising, performing	Four step rehearsal plan, the two conductors (student teachers) documented their teachings in journals	Qualitative outcome is reported by quotations of the participating patients
Anderson & Overy (2010)	Examination of the impact of music and art classes on young offenders' commitment to further participation in education, self-esteem, self-control, behaviour and literacy skills	Control group, no randomization (participants either decided or were allocated to the classes, pre-post structured interviews; Emotion Scale (Wilson et al 2008); Locus of control behaviour scale (Craig et al. 1984); Rosenberg self Esteem Scale (Rosenberg 1965); DAST ¹ ; Fawcett and Nicolson 1988); behaviour incidents and engagement with education; records provided three months before, during and three months after the project	↑ Educational engagement (largest growth in music group); men enjoyed the art and music sessions, found sessions engaging and meaningful; ↑ behaviour incidents; ↑ self-esteem (music intervention and control, not art); ↑ locus of control post-project. ↓ emotion scores (music and art).
Cohen, J. (1987)	Description of two models of how to use music therapy with the overcontrolled offender. Goal in therapy: to help the patient increase his expressive range, to strengthen his musical boundaries, decrease passivity, improve interactional skills.	Case examples	↑ Assertiveness in the group context; ↑ interaction and ability to project musical self into the group. Reinforcement of boundaries. Music: safe container for the expression of intense emotions.
Cohen, M. L. (2007)	Exploration of participants' experiences in a joint inmate community volunteer choir at a minimum security prison. Study focus: (a) the meanings of choral singing in prison contexts, (b) a broader perspective of choral singing pedagogy, and (c) possibilities for music education programs in these contexts.	Quantitative and a qualitative phases, grounded theory methodology. (Subsequent qualitative data included interviews, field notes, and material culture.) Quantitative survey: (a) demographic questions, (b) seven Likert-scale items on perception of intonation, sense of accomplishment, choir participation upon release, self-reflection, (c) four open-ended items about participants' most positive and negative experiences and their reasons for joining. Qualitative phase: The researcher observed 74 hours of rehearsals and formally interviewed 29 participants (n=17 inmates and n=12 volunteers).	Inmates: perceived greater increase in intrapersonal skills than volunteers; Gaining new skills: ↑ self-confidence and self-pride. Volunteers: more success in identifying out of tune singing than inmates, more relationships with inmates, ↑ reflections about criminal justice setting Volunteers and inmates: ↑vocal skills, learning melodies, rhythms, paying attention to detail, working with others Grounded theory: The complex choral music education experiences may carry potential for transformative personal and interpersonal change in prison choir contexts.
Cohen M. L. (2009)	<u>Experiment one:</u> Goal: to compare well-being measurements TCIS ² (n=10) who participated and performed in a prisoner-only choir performance in a correctional facility to a control group of inmates who were not in the choir (n=10). Research question: Are there differences in well-being measurements between the TCIS and the control group before and after a choral performance at the prison facility?	Dependent measure: FWBS ³ ; Data were collected before and after the prison choir s first performance.	↑ Between pre and post composite well-being scores for both groups. No significant differences between experimental and control groups in composite well-being scores. ↑ between pre and post measurements on the subscales for joviality, and emotional stability in both groups. Supplementary, nominal data were collected indicating that the choral experiences helped the participants to improve their interpersonal skills.

Table 2: Included studies by main study focus, research design and outcome; [1] DAST: Dyslexia adult screening test; [2] TCIS: therapeutic community inmate singers; [3] FWBS: the Friedman Well-Being Scale; [4] ATPS: Attitudes Toward Prisoners Scale (Melvin et al. 1985); [5] CAT: cognitive analytic psychotherapy; [6] PROQ2: Person relating to others questionnaire (Birtchnell J. Institute of Psychiatry); [7] SWCPP: Singing with Conviction pilot project; The [8] HMCC: Hiland Mountain Correctional Center; [9] This model was developed based on the work of Loth (1996) and Reuer and her colleagues (1999); [10] SA/MI Substance Abuse/Mental Illness

Authors (year)	Main study focus	Research design / measurements	Outcome / results
Cohen M. L. (2009)	<u>Experiment two:</u> Goal: to compare FWBS ³ measurements of a larger experimental group (n=48) with the same control group (n=10) as in experiment one, both before and after a public performance of a joint inmate/volunteer choir. Research question: Are there differences in well-being measurements between the experimental and control groups before and after this public performance according to the FWBS ³ ?	Dependent measure: FWBS ³ ; Data were collected before and after the prison choir's performance.	Exp.2: no significant difference between control and experimental groups in amount of improvement for composite well-being; there was a significant increase from pre to post scores among all groups. A significant difference between control and experimental groups occurred in four subscales: (a) sociability, (b) joviality, (c) emotional stability, and (d) happiness.
Cohen, M. L. (2012a)	Measurement of changes in community singers' attitudes toward prisoners and documentation of changes in prisoner singers' perceptions of their social competence. Research questions: (a) What changes will occur in volunteers' responses to the Attitudes Toward Prisoners Scale before and after participating in a prison choir project? (b) How will prisoners self-report their experiences after their first three months of participation in a combined community-prisoner choir?	Mixed methods: (1) quantitative: pre-post testing: Community members completed an ATPS ⁴ , before meeting the prisoners and after the group's concert. All answered open-ended questions summarizing the choir experience. (2) Qualitative: open ended questionnaire completed by prisoner and volunteer singers after the concert.	Community members: changed stereotypes about prisoners, ↑ reflections about criminal justice setting; positive effect on attitudes towards prisoners (p< .01) Two categories emerged from the open-ended answers: relationships with others and self-gratification. Prisoner singers: ↑ confidence; subcategories linked to self-gratification: self-confidence, enjoyment, self-expression, realization that they can contribute positively to the outside world; Subcategories linked to relationships with others: feeling respected, getting along with others, making friends, connecting to something outside prison, and improving family relationships.
Cohen, M. L. (2012b)	Examination of overall impacts of implementing a writing component in an ensemble for the purposes of building camaraderie and assessing individuals.	Description of the process; quotations of the prisoners	Writing: can function as a "medium for reflection on the music making process " and as a "communication channel" between therapist/conductor and participants
Compton Dickinson, (2006)	Demonstration of how dynamic music therapy skills and training can be integrated with those of CAT ⁵ Aim: to provide a twenty four week time limited psychotherapy intervention that included attuned musical improvisation as a central component	Case study; The therapy was evaluated with the PROQ2 ⁶	Music making helped the patient to create links between various states of self and "lost" or split off parts of himself; Therapeutic functional music took the patient to unspeakable areas of his inner state.
Daveson, & Edwards (2001)	Descriptive study exploring the role of music therapy in prisons	Evaluation of self-report measures and musical and verbal material shared during the program through two surveys. Questionnaires were completed after 4th session and after final session. Six questionnaires: completed after session four; Five questionnaires: completed at the end of the program. No reason as to why the 7th participant did not complete a questionnaire was provided.	↑ Relaxation, ↓ stress, ↑ self-expression. ↓ anger and frustration; Lower number of participants → increase in the amount of personal information shared; Music making: medium to express various emotions; Topics discussed: criminal sentencing, effective strategies and coping mechanisms for conflict situations

Table 2: (continued) Included studies by main study focus, research design and outcome; [1] DAST: Dyslexia adult screening test; [2] TCIS: therapeutic community inmate singers; [3] FWBS: the Friedman Well-Being Scale; [4] ATPS: Attitudes Toward Prisoners Scale (Melvin et al. 1985); [5] CAT: cognitive analytic psychotherapy; [6] PROQ2: Person relating to others questionnaire (Birtchnell J. Institute of Psychiatry); [7] SWCPP: Singing with Conviction pilot project; The [8] HMCC: Hiland Mountain Correctional Center; [9] This model was developed based on the work of Loth (1996) and Reuer and her colleagues (1999); [10] SA/MI Substance Abuse/Mental Illness

Authors (year)	Main study focus	Research design / measurements	Outcome / results
Fierro (2010)	Description of the workings and the impacts of the music class at the Santa Ana Jail.	Description of the process, personal reflection	Music class: opportunity to interact and mingle with other participants, helps the students to stay on good behavior; Students report that performing music gives them a goal, a sense of accomplishment; staff members report enjoying the performances
Fulford (2002)	Description of the music therapy program in a maximum security psychiatric state facility. Goals of the program: improve communication skills, on-task behaviors, self-esteem, anger management, socialization and other skills in a group setting.	Description	↑ relaxation and anger management skills Patients respond positively about the effects on mood, self-esteem, communication skills, emotional expression and enjoyment of music.
Gallagher & Steele (2002)	Description of a model for implementation of music therapy within a SA/MI ¹⁰ program.	Description of the music therapy program and the documentation and evaluation system.	Music therapy: provides opportunities for identification and expression of feelings and improvement of mental health; can reach clients who are resistant to other therapies; helps clients in learning new skills to maintain sobriety
Glyn (2003)	Description of an individual long-term music therapy treatment of a mentally ill forensic psychiatric patient. [The author tries to show that an approach that focuses the patient’s attention on the therapeutic relationship itself can contribute to the core tasks of forensic psychiatry] Guiding Question: Is the patient able to find a place from which to observe and acknowledge the relationship that is taking place? Or does his offensive organisation dictate that no third position can be admitted?	Case study	↑ Emotional communication; ↑ cooperation and affection; ↑ verbal responses; ↑ communication through song material; ↑ communication about immediate experience of the therapist and the sessions; ↑ awareness of “lost” happenings from the past The patient learned to accept help and made symbolic links between a song and his past and present situation. The patient’s underlying psychopathology remained the source of further difficulties.
Hakvoort (2002)	Description of a music therapy anger management program designed to treat forensic offenders with disturbed anger regulation and personality disorders.	The program is described very detailed, several case examples and one case study are used to show how the program can be applied.	The patient(s): developed an ability to react musically and express feelings of anger through music; learned which events trigger anger, ↑ relaxation skill; ↓ ambiguity; ↑ ability to express himself Patients reported that their skills to cope with anger improved.
Huckel (2009)	Exploration of the therapeutic processes of two prisoners engaged in individual music therapy sessions	2 case studies	The last sessions opened up a professional therapeutic dialogue with staff; Patients got into a strong relationship with the therapist; they considered music therapy as a safe place to express thoughts and feelings;

Table 2: (continued) Included studies by main study focus, research design and outcome; [1] DAST: Dyslexia adult screening test; [2] TCIS: therapeutic community inmate singers; [3] FWBS: the Friedman Well-Being Scale; [4] ATPS: Attitudes Toward Prisoners Scale (Melvin et al. 1985); [5] CAT: cognitive analytic psychotherapy; [6] PROQ2: Person relating to others questionnaire (Birtchnell J. Institute of Psychiatry); [7] SWCPP: Singing with Conviction pilot project; The [8] HMCC: Hiland Mountain Correctional Center; [9] This model was developed based on the work of Loth (1996) and Reuer and her colleagues (1999); [10] SA/MI Substance Abuse/Mental Illness

Authors (year)	Main study focus	Research design / measurements	Outcome / results
Loth (1994)	The paper discusses the process of a music therapy group and examines the role it can have within this setting in terms of choice, denial and the law.	Case study	↑ self-confidence, ↑ self-awareness and acceptance of feelings; Music therapy functioned as a safe place and a useful container to deal with anger and other (difficult) feelings, thoughts and behaviors in a creative and supportive way.
Mendoca (2010)	Examination of the gamelan music program called “Good Vibrstions”	Fieldwork, post-project interviews with key individuals, published sources regarding the project, prison policy, and prison education. The research draws on the author’s prior experience of gamelan in Britain as both a participant and an observer.	↑ Self-confidence; ↑ social skills; ↑ involvement in education programs Music functioned as a “safe place” for reflection and interaction
Menning (2010)	Description of the SWCPP ⁷ facilitated by Arts Access Aotearoa in the New Zealand prison system in 2004–05.	Description and exploration of the ethnic dimensions of the SWCPP ⁷ related to New Zealand’s Maori population.	Staff noted that participating prisoners were more driven and motivated. The SWCPP ⁷ appeared to boost the morale of participating prisoners, 86 per cent of whom wanted the singing to continue.
Reed (2002)	Description of the music therapy groups at Atascadero State Hospital under the California Department of Mental Health	Description of the music listening group, the gospel choir group, the music improvisation group and the rhythm improvisation group	↑ Overall musical skills; ↑ overall functioning level; ↑ self-esteem; ↑ transcendent experiences; Improvements could be seen in the cognitive, psychological, behavioral, and social functioning of the patients.
Rodrigues et al. (2010)	Description of the project called “BébéBáá”. Report of practical work and the impacts of the program on the participants. The purposes of the project: to enrich the musical and artistic life of the participants, to help attachment between parents and babies and to promote social relationships in the community through music.	Observations and reflections, video observation (still in progress)	↑ Self-confidence; ↑ social bonds; ↑ quality of the interaction between mothers and infants A “chain effect” was reported: music stimulated babies, which in turn stimulated mothers to interact with them. → music as a mediator, “musical empowerment” Babies showed change in facial expressions and behaviour of from the beginning to the end of the project.
Roma (2010)	Examination of the men’s prison chorus called “UMOJA” Research questions: (1) How does the inmates’ participation in UMOJA affect their experience of daily life in prison including their self-perception? (2) How does musical performance, especially of inmate-composed choral repertoire, affect the choir as a community (intra-group, relationships, external connections)?	Excerpts from formal and informal interviews done over a period of years.	Qualitative outcome is reported by quotations of the participating patients ↑ kinship and cooperation; ↑ pride; The choir encourages spiritual and emotional development, and fosters artistic expression,.
Spang (1997)	Description of the music therapeutic work in a forensic psychiatry during 2 years.	Personal reflection and reports by staff and clients	↓ Physical complaints; ↑ relaxation skills; ↑ self-esteem; ↑ responsibility for themselves and others; ↑ attention span; ↓ habits of “giving up”; ↑ communication skills ↑ acceptance of limitations; ↑ constructive use of leisure time: group members formed a music group outside the therapy room Music therapy: contained, safe place to express feelings, reveal hopes and fears;

Table 2: (continued) Included studies by main study focus, research design and outcome; [1] DAST: Dyslexia adult screening test; [2] TCIS: therapeutic community inmate singers; [3] FWBS: the Friedman Well-Being Scale; [4] ATPS: Attitudes Toward Prisoners Scale (Melvin et al. 1985); [5] CAT: cognitive analytic psychotherapy; [6] PROQ2: Person relating to others questionnaire (Birtchnell J. Institute of Psychiatry); [7] SWCPP: Singing with Conviction pilot project; The [8] HMCC: Hiland Mountain Correctional Center; [9] This model was developed based on the work of Loth (1996) and Reuer and her colleagues (1999); [10] SA/MI Substance Abuse/Mental Illness

Authors (year)	Main study focus	Research design / measurements	Outcome / results
Silber (2005)	Examination of the points of interface between the ordinary workings of a multi-vocal choir, and the therapeutic needs of prison inmates.	Qualitative exploration; conclusions are based on the observed effects of the project on the participants and analysed in consultation with a clinical psychologist; conductor: active (observed) participant and observer; provided journal entries after the rehearsals; videotaping of the rehearsals; at year's end: an open interview with each inmate/participant; discussions with prison staff	An "alternative community" and "protected space" was formed and enabled formation of positive bonds, acceptance of criticism, release of tension, and increased self-esteem and listening, self-expression and social skills. Participation in the choir functioned in a sense of empowerment and helped to increase self control;
Thaut (1989)	Goal: To identify the music-evoked experiences in music therapy and to measure the self-perceived changes in states of relaxation, mood/emotion, and thought/insight in psychiatric prisoner-patients evoked through three different music therapy techniques. (music group therapy, instrumental group improvisation, and music and relaxation)	Before the experimental part: Concerning the perceived therapeutic benefit of participation in music therapy, a survey of 130 patients over a period of 6 months was conducted and self-report scales for the 3 most frequently reported categories were prepared. Patients rated themselves before and immediately after the sessions. Each group of patient participated in 3 different treatment activities (music group therapy, instrumental group improvisation, music and relaxation) on different days of the week.	Significant change ($p < .05$) in self-perceived ratings across all scales before versus after music therapy. Similar responses in all groups, the different treatment modalities did not significantly influence the results. Patients reported about improvement in relaxation, mood/emotion states and thoughts about self. "The different treatment modalities did not influence self-perceived behavior change. Yet, the magnitude of change differed significantly on all three scales. Music therapy techniques seemed to have the strongest impact on self-perceived relaxation states, followed by improved mood/feeling states and positive thoughts about self and one's own life. "
Tiernan, (2010)	Personal reflection on the experience of a tutor and community musician in a probation center	Personal reflection	The music program is described as successful; the text mentions several positive impacts of the whole program on the staff and the overall pedagogic approach such as creating a safe and challenging environment for participants to become aware of their potential.
Warfield (2010)	Examination of the history of the HMCC ⁸ women's string orchestra programme.	Primary source data: interviews with Pati Crofut (volunteer who founded the orchestra) and Gabrielle Willis, one of the orchestra conductors.	↑ Confidence; ↑ expression of emotions; ↑ love of music; ↑ teamwork skills; Development of competence and worthiness regarding interactions with outside concert guests and their families; Musical and social interaction may be seen as a support to counteract reoffending. Qualitative outcome is reported by quotations of the participating members.

Table 2: (continued) Included studies by main study focus, research design and outcome; [1] DAST: Dyslexia adult screening test; [2] TCIS: therapeutic community inmate singers; [3] FWBS: the Friedman Well-Being Scale; [4] ATPS: Attitudes Toward Prisoners Scale (Melvin et al. 1985); [5] CAT: cognitive analytic psychotherapy; [6] PROQ2: Person relating to others questionnaire (Birtchnell J. Institute of Psychiatry); [7] SWCPP: Singing with Conviction pilot project; The [8] HMCC: Hiland Mountain Correctional Center; [9] This model was developed based on the work of Loth (1996) and Reuer and her colleagues (1999); [10] SA/MI Substance Abuse/Mental Illness

Authors (year)	Main study focus	Research design / measurements	Outcome / results
Watson (2002)	Description of a model ⁹ for using drumming and improvisation with sexual offenders. Goal: to use drumming and group musical improvisation to provide opportunities for nonverbal self-expression, positive group/social experiences, leadership opportunities, cooperation, confrontation, and a safe environment to release intense emotions	description, resident statements, staff observation	Reports and observations show that the group addressed multiple needs related to sexual offending: ↑ ability to release emotions; ↑ relaxation and stress management coping skills; ↑ building intimacy skills; ↑ social interaction; ↑ impulse control; ↑ ability to regulate emotions; ↑ tolerance of others; residents with cognitive deficits also noted: ↓ headaches; ↓ muscle tension; ↑ group unity; ↑ enjoyment of music
Wilson et al. (2009)	Exploration of the long term impact of taking part in a Good Vibrations project inmates while still in prison. Impacts were explored on: (1) Life in prison, (2) commitment to additional education offers, (3) emotional, psychological and behavioural components. Six months after the program the authors explored whether the changes sustained.	Qualitative interviews with participants and staff. Specially designed emotional scale; Participants completed the scale when discussing events before, immediately after, and six months after the Good Vibrations project.	↑ level of engagement and openness to further learning; ↑ communication skills; ↑ social skills; ↓ levels of self-reported anger; Six months after participating in the program, positive emotional and psychological impacts remained.

Table 2: (continued) Included studies by main study focus, research design and outcome; [1] DAST: Dyslexia adult screening test; [2] TCIS: therapeutic community inmate singers; [3] FWBS: the Friedman Well-Being Scale; [4] ATPS: Attitudes Toward Prisoners Scale (Melvin et al. 1985); [5] CAT: cognitive analytic psychotherapy; [6] PROQ2: Person relating to others questionnaire (Birtchnell J. Institute of Psychiatry); [7] SWCPP: Singing with Conviction pilot project; The [8] HMCC: Hiland Mountain Correctional Center; [9] This model was developed based on the work of Loth (1996) and Reuer and her colleagues (1999); [10] SA/MI Substance Abuse/Mental Illness