Evaluating Sistema Scotland

Community-based music programmes, and health and inequalities: impact on children/adolescents and their families: Systematic literature review (Work Package 3)

October 2014

UNIVERSITY OF DUNDEE

BATH SPA UNIVERSITY

THAt
TAYSIDE HEALTHCARE ARTS TRUST

Research Team

Professor Divya Jindal-Snape*
Dr Jacqui Morris**
Professor Thilo Kroll**
Dr Ros Scott*
Dr Madalina Toma**
Dr Susan Levy*
Professor Dan Davies***
Chris Kelly****

Advisors: Professor John Baldacchino (University of Dundee) and Dr Laura Falzon (Teachers College Columbia University, USA)

*Transformative Change: Educational and Life Transitions (TCELT) Research Centre, University of Dundee

**Social Dimensions of Health Institute (SDHI)

*** Bath Spa University

****Tayside Healthcare Arts Trust (THAT)

Acknowledgements

Foreword

Community arts programmes are grassroots organisations, varied in nature, that attempt to use the arts as a tool for social or economic regeneration and development. The scale, diversity and complexity of community-based arts programmes, approaches and mechanisms and the methods involved in assessing impacts on participants and communities make studies challenging to compare, and findings difficult to generalise.

There have been positive claims made by researchers and arts advocates alike as to the social, economic and cultural impacts of community-based arts programmes. However these topics have not been the object of extensive study and the evidence behind some of these claims is questionable, especially through the lens of a systematic review. It is worth noting that quantifying the impact of the arts, especially in terms of 'social gain' presents considerable difficulties, arguably greater than in any other field of evaluation.

Aside from the diversity and complexity involved in assessing the impacts of community-based arts programmes there is a lack of clarity about the pathways through which these programmes might impact health and wellbeing. Most studies are short term, and frequently self-evaluation frameworks (rather than objective measures) are used to assess impact. Potentially not enough investment has been made in longitudinal studies looking at individual and community impacts over time and examining impacts on intermediate variables affecting future health. The lack of clarity about pathways is especially true with respect to how targeted community-based arts programmes can address inequalities; and the mechanisms required to improve aspects of individual and community life within disadvantaged areas.

This is the final systematic review in a series of three commissioned by the GCPH, designed to inform the GCPH-led evaluation of Sistema Scotland. This review will consider the evidence relating to community-based music programmes, their impact on health and in addressing inequalities. The review will specifically focus on impacts on children and adolescents and their families. This will inform the methodologies planned in the long-term evaluation of Sistema Scotland and will illuminate the theorised pathways between community-based interventions and health, highlighting gaps in the evidence. This is important to ensure that the Sistema evaluation contributes new insights to this evidence base and is utilised in supporting the design and delivery of community-based arts programmes as social interventions.

Chris Harkins

Senior Public Health Research Specialist, GCPH

Table of Contents

Executive Summary

1. Introduction

This review focuses on the use of music to enhance health and wellbeing outcomes for children and adolescents in non-clinical, community settings. A secondary aim was to examine whether and how music participation and engagement has been introduced to address social and health-related inequalities.

1. Research Questions

1   What do we know about the relationship between music engagement/participation and health and wellbeing in children, adolescents and their families?
2   What theories and theoretical foundations are used in the empirical publications linking music engagement/participation with health and wellbeing in children, adolescents and their families?
3   What specific population groups, settings and outcomes have been considered?
4   What study designs and methodological approaches have been used?
5   How strong (what is the evidence) is the evidence base linking music engagement/participation to health and wellbeing in children, adolescents and their families?
6   What do we know about music and its role in addressing social and health related inequalities in children, adolescents and their families?
7   What are the gaps in the current state-of-the science linking music with health and wellbeing of children and adolescents, including theoretical, methodological (designs, maturity/fidelity of approaches, outcomes, quality of implementation) and implementation?

2. Methodology

The approach to conducting the different types of reviews and to forming an evidence synthesis was based on key principles and methodological approaches of EPPI-Centre. It involved the following steps:

1. Scoping the review
2. Searching for studies
3. Screening studies
4. Describing and mapping
5. Quality and relevance appraisal
6. Synthesising study findings
7. Conclusions/recommendations

2.1 Data Extraction

- Only eight papers fulfilled the inclusion criteria.
- Three of the studies were from Australia, 2 from the UK, 2 from Canada and one
- from the US
- 5 studies reported in the journal publications were based on qualitative study designs, while 3 studies involved quantitative designs
- All of the studies were classed as low to moderate quality.
- The heterogeneity of the studies precluded a meaningful synthesis. However, the various studies are described in detail.

3. Results

3.1 Relationship between music engagement/participation and health and wellbeing in children, adolescents and their families

The relationship of music engagement with health and wellbeing of children and adolescents and families

- Seven studies explored the effect of active music engagement/participation on health and wellbeing for non-clinical populations.
- Four pre-post-test designs with control groups, three before and after intervention with no comparison and one longitudinal study were conducted and yielded similar results.
- All seven studies provided evidence that active music making can play an important role in addressing health issues, by improving emotional wellbeing, self-esteem and social cohesion.

The relationship between music listening preferences and health and wellbeing of children and adolescents and families

- One study explored the music listening preferences on emotional wellbeing of adolescents
- The study involved 329 adolescents in a Canadian high school
- The study found a significant relationship between the congruence between parent and adolescent listening preferences and emotional wellbeing of the young person. A significant association was not found for coherence with music listening preferences of peers
- Another study examined intergenerational singing programmes and suggested emotional, social and cognitive benefits for children and the elderly. However, the study relied on seven informants' views about intergenerational projects and did not assess direct benefits

- One publication specifically made a connection between music engagement/participation and social and health-related inequalities. Authors argue that those who already enjoy higher levels of economic, social and cultural benefits may benefit most from community arts programmes
- Another study focused on immigrant/refugee children suggested growing perception of social cohesiveness and social identity benefits as a result of group music making, no explicit link with social and health-related inequalities

3.2 Theories and theoretical foundations used in the empirical publications linking music engagement/participation with health and wellbeing in children, adolescents and their families

- With the exception of one publication, which made explicit reference to social capital theory, other publications were not substantially underpinned by theory, although references were made to other theories (Maslow's hierarchy of needs, Pennebaker's Disclosure through Emotional Expression, positive psychology concepts such as 'happiness' and 'flow')

3.3 Specific study designs population groups, settings and outcomes

- Eight publications were included in the review.
- Studies had been conducted in the UK, Australia, Canada and the United States
- Settings included extracurricular primary and secondary school as well as juvenile justice community settings.
- Music programmes involved singing, drumming and music projects involving multiple instruments,
- Specific populations included involved young immigrants/refugees, youth with challenging behaviours and adolescents from low income communities
- Specific outcome 'measures' were only presented in the three quantitative studies
- Outcomes involved internal and external behavioural problems, emotional wellbeing (anxiety, depression), self esteem, social cohesion

4. Summary, methodological critique and implications for future research, policy and practice

- Seven of the 8 studies included in this review involved active music engagement and participation, while one focused on music listening preferences.
- There is little evidence that music engagement meaningfully reduces social inequalities.
- The included publications demonstrate tremendous heterogeneity.

- Methodologically, most studies have to be regarded as weak and no firm conclusions can be drawn from the current evidence based.
- Future research needs to advance theoretical understandings on the mechanisms that would connect music engagement with health and wellbeing outcomes.
- Research designs, evaluations and analytical rigour need to improve to allow comparability of findings.
- Participatory research methods may be used but require robust approaches to produce research findings of transferrable and credible value.
- Music initiatives should provide choice to children and adolescents in terms of the type of music as well as the instrument.
- Music initiatives should consider the impact of music on the individual, family and the community, and identify ways of changing structural factors leading to social inequalities.
- It is important to understand and tackle the stereotypes attached to participation in music in different communities.
- The essence of community-based music initiatives, of making music with social goals, should be at the forefront of any music initiative.

1. Introduction

Music can be seen as a universal, non-verbal activity and as a means to connect and communicate when language, culture or behaviour could be seen as barriers to working together (Blacking, 1995; Fritz et al., 2009). Music engagement and participation and its effects on the health and wellbeing have received considerable attention in the professional and academic literature and music therapy has evolved as a field of therapeutic intervention to support a variety of clinical populations, including people with psychiatric disorders (Carr et al., 2013), autism (Molnar-Szakacs & Heaton, 2012), dementia (McDermott et al., 2014), learning disabilities or long-term conditions, including cardiovascular disease (Hanser, 2014).

This review focuses on children and adolescents and their families in the general population, and the use of music without an explicit therapeutic or 'curative' intent. It examines the state of evidence for music in relation to health and wellbeing outcomes in non-clinical populations. Moreover, it does not examine academic performance and achievement or health and wellbeing benefits in formal educational settings (e.g. as part of school curricula). It is important to acknowledge that as this review aims to identify the *evidence* of impact, it is using a particular lens, which the authors of the included literature might not have used.

1.1 Review Questions

i. What do we know about the relationship between music engagement/participation and health and wellbeing in children and adolescents?
ii. What theories and theoretical foundations are used in the empirical publications linking music engagement/participation with health and wellbeing in children and adolescents?
iii. What specific population groups, settings and outcomes have been considered?
iv. What study designs and methodological approaches have been used?
v. How strong (what is the evidence) is the evidence base linking music engagement/participation to health and wellbeing in children and adolescents?
vi. What do we know about music and its role in addressing social and health related inequalities in children and adolescents?
vii. What are the gaps in the current state-of-the science linking music with health and wellbeing of children and adolescents, including theoretical, methodological (designs, maturity/fidelity of approaches, outcomes, quality of implementation) and implementation?

2. Methodology

The review approach included the following steps:

1. Limiting the scope of the review and clarifying the focus
2. Identifying key review questions

3. Identifying specific inclusion and exclusion criteria
4. Defining review terms for different literature databases
5. Developing the search architecture adapted to each database
6. Developing the data extraction and critical appraisal process
7. Running the searches separately for each database
8. Screening of titles and abstracts against inclusion/exclusion criteria
9. Retrieving full papers of those titles and abstracts found eligible for inclusion
10. Reviewing full papers against inclusion/exclusion criteria
11. Extracting data from publications retained as eligible
12. Critical appraisal of all eligible publications
13. Describing and summarising studies
14. Synthesising evidence in response to review questions

2.1 Limiting the scope and identifying the key review questions

The focus of this review is on music engagement and participation in relation to health and wellbeing outcomes. Based on an initial scoping of the literature in only one database (MEDLINE) it became evident that it was necessary to limit the scope of the review further. We decided to examine the evidence related to the relationship between music (engagement and participation) and health and wellbeing in non-clinical, non-institutional populations. Further, we made the decision to focus on children and adolescents. Academic achievement and performance outcomes for children in schools as key components of health and wellbeing have been covered by a separate review (see WP 2), thus we focused on wellbeing outcomes outside academic settings. We kept a focus on music in children and adolescents who had not been identified by 'diagnostic labels'. The specific limitations are reflected in the inclusion/exclusion criteria that were adopted.

The principal aim of the review is

To critically examine the evidence for the relationship of music engagement/participation and health and wellbeing outcomes for children and adolescents in community settings

2.2 Searching for studies

A search strategy involved keywords and terms derived from existing reviews in the area of art, and health and wellbeing was? adapted for the databases that had been searched. Search terms were combined using Boolean operators 'or' and 'and'. The search architecture is included in the Appendix. The following databases were searched: MEDLINE, CINAHL, SCOPUS and ASSIA. The search and process of inclusion can be seen in Figure 1.

We adopted the following inclusion and exclusion criteria.
Exclusion Criteria
- Non-empirical, scholarly papers, reviews, commentaries or opinion papers
- Populations identified by clinical diagnosis; this also included children and adolescents with disabilities who were identified through a clinical label
- Studies focusing on Adults
- Studies with an explicitly specified therapeutic/treatment intention
- Non-English language publications

Inclusion Criteria:
- Empirical study
- Music mentioned in title/or abstract
- Contains empirical data related to attendance and/or participation in music (including singing and drumming) and discussion of health/wellbeing outcomes (in mixed arts-related studies the impact of music on health/wellbeing must be discernible)
- Primary focus on children and adolescents
- Non-diagnostic, non-clinical population
- Community based, non-clinical settings
- Music engagement/participation without explicit and formal therapeutic/treatment intention

The search has been limited to 2004-2014.

2.3   Screening studies

Study titles and abstracts were systematically screened against inclusion/exclusion criteria by the research team.

Initial search strategy:

CINAHL: 61,100
MEDLINE: 128,127
SCOPUS: 495,989
ASSIA: 39,506
TOTAL: Hits 724,632

Broad screening (title and abstract):
CINAHL: 81
MEDLINE: 101
SCOPUS: 116
ASSIA: 65
Removal of duplicates (n=57)
TOTAL: 363

Narrow Screening: included:

CINAHL: 2
MEDLINE: 2
SCOPUS: 3
ASSIA: 1
TOTAL: 8

Narrow screening: excluded:

CINAHL: 79
MEDLINE: 99
SCOPUS: 113
ASSIA: 64
TOTAL: 355

Final papers for data extraction: 8
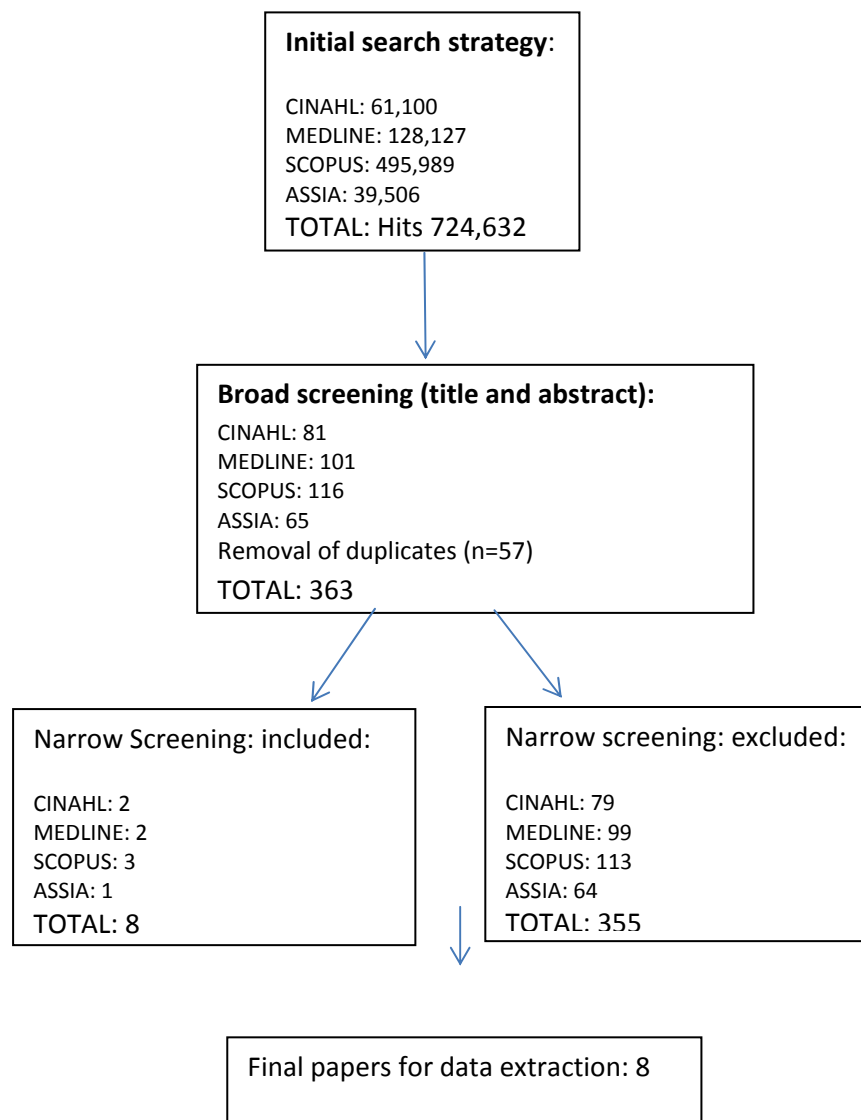
2.4 Summary of included studies

We are reporting on eight studies that have linked music engagement/participation with health and wellbeing outcomes for children and adolescents in community settings. All studies were published between 2009 and 2013. Three of the studies were conducted in Australia (Barrett & Baker, 2012; Marsh, 2012; Wood et al., 2013), two in Canada (Beynon et al., 2013; Miranda & Gaudreau, 2011) and the United Kingdom (Hampshire & Matthijsse, 2010; Rimmer, 2012) and one in the United States (Bittman et al., 2009). Five of the studies were based on qualitative methods (Barrett & Baker, 2012, Beynon et al., 2013; Hampshire & Matthijsse, 2010; Marsh, 2012; Rimmer, 2012) and three on quantitative study designs (Bittman et al., 2009; Miranda & Gaudreau, 2011; Wood et al., 2013). Seven of the studies focused on active music participation, including drumming, singing and general music making, while one study (Miranda & Gaudreau, 2011) explored music listening preferences and their impact on health and wellbeing. Two of the studies were conducted in social justice settings with young offenders (Barrett & Baker, 2012; Bittman et al., 2009) and one in a school for recently arrived immigrants, refugees and asylum seekers in an after-school context (Marsh, 2012).

Table 1. Summary of included papers

	Authors	Title	Year	Method	Type of Music	Country
1	Hampshire and Matthijsse	Can arts projects improve young people's wellbeing? A social capital approach	2010	Qual.	Singing	UK
2	Rimmer	The participation and decision making of 'at risk' youth in community music projects: an exploration of three case studies	2012	Qual.	Music/ singing	UK
3	Marsh	"The beat will make you be courage": The role of a secondary school music program in supporting young refugees and newly arrived immigrants in Australia	2012	Qual.	Music	Australia
4	Barrett and Baker	Developing learning identities in and through music: a case study of the outcomes of a music programme in an Australian juvenile detention centre	2012	Qual.	Music	Australia
5	Beynon, Heydon, O'Neill, Zhang and Crocker	Straining to hear the singing: toward an understanding of successful intergenerational singing curriculum	2013	Qual.	Singing	Canada
6	Wood, Ivery, Donovan and Lambin	'To the beat of a different drum': improving the social and mental wellbeing of at-risk young people through drumming	2013	Quan.	Drumming	Australia
7	Bittman, Dickson and Coddington	Creative musical expression as a catalyst for quality of life improvement in inner-city adolescents placed in a court-referred residential treatment program	2009	Quan.	Drumming	USA
8	Miranda and Gaudreau	Music listening and emotional wellbeing in adolescence: a person-and-variable oriented study	2011	Quan.	Listening to music	Canada

3. Results and Discussion

3.1 Relationship between music engagement and participation, and health and wellbeing in children and adolescents

Whilst there is a growing literature on arts activities and their impact on health/wellbeing, questions are emerging around outcomes and the causative and associative relationships. The limited number/quality of papers and the clustering of the papers over the last five years are an indication that this is an emerging field in need of further exploration. In this review, we could not identify any specific physical health outcomes. Emotional, general wellbeing, social development and skills 'outcomes' are not clearly distinguished and terms frequently used undefined or in interchangeable ways.

This evolving interest in demonstrating positive impact of arts projects on health and wellbeing, that is underpinned by current government discourse, is captured in the findings of the majority of the studies (Barrett & Baker, 2012; Beynon et al., 2013; Bittman et al., 2009; Marsh, 2012; Miranda & Gaudreau, 2011; Wood et al., 2013). However, this approach is critiqued by Hampshire and Matthijsse (2010) for being outcome rather than process orientated and for a tendency to 'gloss over negative aspects' (p.709). Two of the qualitative studies offer new insights by questioning and problematizing the differential impact of arts activities on the health and wellbeing of children. Hampshire and Matthijsse (2010) argue that existing social capital influences the impact of an intervention, whilst Rimmer (2012) points to the salience of adopting participatory practices in community based music projects.

This review focuses on studies in non-clinical setting. Previous work on the arts and health and wellbeing has largely been conducted in clinical settings. The use of non-clinical settings is opening up opportunities for the exploration of the uses and benefits of music without relegating it to explicit curative intentions or spaces with clinical connotations that may be resisted by vulnerable and marginalised individuals and groups.

Based on the reviewed studies, we can group key health and wellbeing indicators in following three categories:

- Benefits related to self esteem, confidence, emotional wellbeing
- Mental health benefits (e.g. depression)
- Socio-relational benefits (e.g. communication, relationships and social isolation).

In the reviewed studies, these indicators have been explored across generations between the young and old (Beynon et al., 2013), between parents and children (Miranda & Gaudreau, 2011), across ethnicities and cultures (Marsh, 2012) in various risk groups and young

offenders (Barrett & Baker, 2012; Wood et al., 2013) .

3.1.1 Benefits related to self esteem, confidence, emotional wellbeing

Hampshire and Matthijsse (2012) conducted an ethnographic study of the UK Government funded SingUp programme that is a community-based singing project. Their study focused on SingUp Dales, where three groups were established with mainly children of primary 5 and 6 school level (9-11 years). Each group met weekly. The three community groups varied in their socio-demographic makeup. Parktown and Middlemoor are urban settlements in former mining towns, which now have high levels of socio-economic deprivation. Daleside is a prosperous historic market town with predominatly middle class residents. The authors conducted 18 months fieldwork in these settings and included 41 children in the SingUp and 51 in a control group with a matched socioeconomic profile in their anthropological study, which included participant observations and interviews. The authors attended weekly singing rehearsals regularly, watched performances and joined in post-performance celebrations. They also handed a questionnaire to children at baseline, 8 months and 16 months. These were completed under researchers' supervision. Similar questionnaires were given to parents but this was abandoned due to low responses. The questionnaire was designed to measure key components of social capital, and social and emotional wellbeing. There was a very high turnover of children in the SingUp groups. This meant too few completed all three rounds to permit a meaningful statistical analysis of changes. The open-ended interviews with SingUp children faced similar challenges. Only 28 of the children could be interviewed twice. Children who had quit SingUp were interviewed by phone. In addition, two focus groups were conducted with each singing group and one in every region with parents. Findings from the study were mixed. On the one hand, children who stayed with the SingUp groups reported positive experiences of feeling more connected and developing friendships. Others however, especially children from the two more deprived areas did not perceive singing as 'cool' and felt it at times difficult to attend the singing lessons. Children disconnected from the programme as they felt alienated from the kind of music that had been chosen as part of the SingUp programme. They preferred learning more contemporary music. The singing arrangements were also difficult to fit into an already busy schedule of the children from the more affluent Daleside community. Children from deprived towns with little economic or cultural capital appeared to gain little from SingUp. Children from prosperous Daleside with already established economic and cultural capital added to their social capital.

Rimmer (2012) conducted three case studies of community music programmes (one located in a school and two in youth centres) to explore the complexities and multi-dimensionality of adolescents' participation in community music activities and their potential role in community development. While the study does not use explicit language related to health and wellbeing, it makes reference to issues of empowerment, self actualisation and feeling valued – all being key concepts associated with wellbeing. Rimmer suggests that the location of community music projects is critical. School based activities are likely to attract and retain mostly 'school committed' children, likely to already be engaged in (private) music lessons. Whereas community music projects based within youth centres are more likely to reach 'at risk' youth – however, the findings further complicate this by highlighting participatory practices as being the key to impact on all adolescents. According to Rimmer's case study

findings, self-esteem can be achieved through empowerment and participatory practices. Whilst Rimmer (2012) refers to decision making, empowerment, participation and choice, other studies highlight the significance of involving children and adolescents in the decision making related to their musical experience. Marsh (2012) talks about collaboration, creativity and inclusion, and Hampshire and Matthijsse (2010) found that children felt disconnected when they were not able to choose the songs they sang.

Miranda and Gaudreau (2010) sought to determine different types or profiles of emotional responses in relation to music listening preferences of 329 children and adolescents, grade 9-11 in a Montreal high school as well as exploring the relationship between social congruence in music tastes with friends and parents and the impact of this on emotional wellbeing in adolescents. In relation to the latter they found that higher congruence between child and parent listening preferences was associated with higher levels of positive affect in emotional wellbeing. The relationship with positive effect was not found for congruence of music listening preferences with peers. The authors contend that there is little research that has considered music listening in adolescents in relation to their parents and argue, that this is a 'research caveat given that relationships with parents remain extremely important throughout adolescence' (p.3).

Wood et al. (2013) report on an evaluation of the DRUMBEAT (Discovering Relationships Using Music, Beliefs, Emotions, Attitudes and Thoughts) after school programme, which was initially developed in 2003 as an early intervention to prevent drug and alcohol use and to build resilience. The programme aims to build self-esteem and social competencies with a key focus on relationships, collaboration, group cohesiveness, trust, and understanding of others. They note the benefits of 'drumming' is that it makes individuals feel good and that it is easier to 'fit in' with others in a group. The project evaluation involved 180 children from 19 primary, secondary and English language (English as a second language) schools. There was a 10% improvement on the Rosenberg's Self Esteem Scale between baseline and the end of the programme. Positive changes in behaviour, greater sense of belonging and group cohesion as well as a decrease of absenteeism were also noted by teachers.

3.1.2 Mental health benefits (e.g. depression)

Bittman et al. (2009) worked with inner-city youth in a juvenile detention centre. They introduced a creative musical expression protocol as a catalyst for verbal and non-verbal expression. The study involved group drumming. Findings demonstrated statistically significant improvements in self-reported depression compared to participants of a control group. Findings from self-report were also supported in documentation from counsellors.

3.1.3 Socio-relational benefits (e.g. communication, relationships and social isolation)

Marsh (2012) conducted an ethnographic case study at an intensive English centre. The presented findings are part of larger multi-case study (with purposive and instrumental case

studies) on the role of music in refugee and newly arrived immigrant children's and adolescents' lives within a number of extracurricular school, home and community contexts in Sydney. The research team visited the school for one day per week over a period of 7 months and observed elective music and dance classes, including choral and instrumental activities, and dance. They examined the creative development, rehearsal and performance situations. Observations were video-recorded and documented with extensive field notes. Pupils and staff were interviewed informally in the context of activities during the period of observations. At the end of the school year semi-structured interviews and two focus groups were conducted. The participants were selected from two cohorts of pupils; children who had recently arrived in Australia (5 children); and children who had at been in Australia for approximately one year and who were about to graduate from the school (3 children). Moreover, two staff members who had greatest responsibility for providing music and dance activities and the School Principal completed a structured email interview. The key findings that emerged from the project were that music contributed to fostering social and group cohesion and helped overcome perceived separation and marginalisation. Whether these effects are sustainable remains unclear and the small sample size may not be indicative of generalisable effects.

This beneficial aspect of music participation was also found in Barrett and Baker's (2012) study with young offenders. They studied the Australian Children's Music Foundation (ACMF) 'Youth at Risk' music initiative, which emphasised playing and music making with the music teacher in a community of practice. The music programme was designed to develop vocal and instrumental skills in guitar and bass playing as well as drumming. The repertoire was based on pupil choices and further served to develop song-writing skills. Seventeen of 22 school pupils taking part in music programme participated in the study. The authors ensured that data collection tools were designed in a way that to account for participants with very low literacy levels. Over the three interview time-points pupils dropped out due to court appearances and release. In addition, the authors conducted individual interviews with other key stakeholders (Australian Juvenile Detention Centre (AJDC) principal, ACMF music teacher, AJCC programmes manager) and conducted observations during the music lessons. Based on their findings the authors concluded '…that music participation is a powerful mechanism for advancing social inclusion' (p.245) and that the intervention can build skills that can be transferred to other areas of the adolescents's lives. It helps to build positive relationships and trust between the young residents and staff as the following quote illustrates 'I've also noticed that the programme's also built better relationships between staff members at the centre, and the residents, and I can only imagine that this will translate to the outside world, and these adolescents will get on better, a little better, with authority figures, or older people, because of the exposure to, building a good relationship with an older person' (ACMF music teacher) (p.254).

Beynon et al. (2013) interviewed informants involved in the coordination of intergenerational singing programmes from 7 organisations in Canada. They had initially contacted 170 organisations about intergenerational singing programmes, they received responses from 134 organisations but only only 36 indicated that they had in the past or were currently offering intergenerational singing programmes. Only 7 organisations responded to the questionnaire about intergenerational singing. Informants suggested that intergenerational singing has the potential to mitigate social isolation and promote a sense of wellbeing of both children and

older people.

3.2 Theories and theoretical foundations used in the empirical publications linking music participation with health and wellbeing in children and adolescents

There is little evidence that studies on the relationship between music participation and health and wellbeing of children have been framed or even informed by theoretical considerations. Other than Hampshire and Matthijsse's (2010) reference to 'social capital' the theoretical foundation of the studies is not well developed and links with empirical findings are at best speculative. Whilst several authors refer to theoretical concepts (e.g. positive psychology concepts such as 'happiness' 'flow', creative expression and disclosure, Maslow's hierarchy of needs) in discussion the research projects themselves have not theoretically framed nor have the results been analysed from a specific theoretical perspective.

Hampshire and Matthijsse (2010) discuss three key dimensions of adolescents's social capital, which had been identified by Schafer-McDaniel (2004), in an effort to understand the connections between music and health and wellbeing:

• Social networks and sociability

• Trust and reciprocity

• Sense of belonging/place attachment

Hampshire and Matthijsse (2010) further added the following dimensions of social and emotional wellbeing:

• Relationships with parents

• Relationships with friends/peers

• Indicators of self-esteem

• Aspirations

However, these dimensions have not been empirically tested, do not form a coherent framework and have not been used and systematically examined in empirical studies.

3.3 Specific population groups, settings and outcomes considered

Within the general population of children of secondary and primary school level age, studies made specific reference to young offenders, new immigrants and refugees, and children

described as being at risk for poor health and wellbeing outcomes from lower socio-economic areas.

The reviewed studies have included a range of psychosocial 'outcomes'. Outcomes is put in quotation marks as most studies did not test the effectiveness of music on health and wellbeing outcomes but reported perceptions of psychosocial benefits. The most commonly referred to 'outcomes' include self-esteem and confidence (all authors), social relationship skills and positive social behaviours (Barrett & Baker, 2012; Miranda & Gaudreau, 2011; Wood et al., 2013), quality of life (Beynon et al., 2013)_ , capacity to engage and persistence in carrying out tasks (Barrett & Baker, 2012) . Other reported outcomes included depression (Bittman et al,, 2009) , anger (Bittman et al., 2009) , sense of belonging (Marsh, 2012) , social cohesion (Marsh, 2012; Miranda & Gaudreau, 2011) , collaboration (Marsh, 2012) and emotional wellbeing (Hampshire & Matthijsse, 2010) .

3.4 Study designs and methodological approaches

Five of the included studies were based on qualitative exploratory study designs, two based on case study approaches (Barrett & Baker, 2012; Marsh, 2012) ; three studies were based on various quantitative designs, including a randomized controlled cross-over design (Bittman et al., 2009), observational cohort design (Miranda & Gaudreau, 2011), uncontrolled pre-interim-posttest design (Wood et al., 2013).

Data in the qualitative studies were generated through self-report questionnaire surveys (Hampshire & Matthijsse, 2010), focus groups (Hampshire & Matthijsse, 2010), semi-structured individual interviews (Barrett & Baker, 2012; Beynon et al., 2013; Hampshire & Matthijsse, 2010; Marsh, 2012), telephone interviews (Beynon et al., 2013), and participant observation).

Two of the quantitative studies (Miranda & Gaudreau, 2011; Wood et al., 2013) used standardised validated measures, including Rosenberg's Self Esteem Scale, the Teachers Report Form (TRF), the Positive Negative Affect Schedule (PANAS).

3.5 Strength of the evidence base linking music participation to health and wellbeing in children and adolescents

The quality of existing empirical evidence linking music participation and health and wellbeing outcome has to be considered satisfactory to poor. Several of the reviewed publications reported on small convenience samples (Barrett & Baker, 2012), provided little analytical detail on qualitative data analysis (Barrett & Baker, 2012; Marsh, 2012), used relatively weak statistical techniques such as Cluster Analysis (Miranda & Gaudreau, 2011), remained largely descriptive (Beynon et al., 2013), used proxy observations by key informants (Beynong et al., 2013) or were faced with substantial drop out problems of study participants (Barrett & Baker, 2012).

Weight of Evidence

1: Excellent, 2: Good, 3: Satisfactory, 4: Inadequate

Papers	Methodological Quality	Methodological Relevance	Topic Relevance	Total
1. Barrett & Baker (2012)	4	2	2	8
2. Beynon et al. (2013)	4	3	3	10
3. Bittman et al. (2009)	2	2	3	7
4. Hampshire &Matthijsse (2010)	3	1	1	5
5. Marsh (2012)	4	2	2	8
6. Miranda & Gaudreau (2011)	2	2	3	7
7. Rimmer (2012)	3	2	2	7
8. Wood et al. (2013)	3	2	2	7

3.6 Role of music in addressing social and health related inequalities in children and adolescents

Only one paper (Hampshire and Matthijsse, 2010) specifically connected music, health and wellbeing, children and inequalities. Hampshire and Matthijsse (2010) refer to Bourdieu's theorising of social capital, arguing that social capital is unevenly distributed and can have an exclusive as well as inclusive function. They claim that their findings represent 'a hierarchy of forms of cultural capital … which is both emblematic and constitutive of social inequalities' (p.712). They further draw on Leonard's (2005) work on 'convertability' and the ability to convert one of type of capital into another that is hardest for those starting out with limited capital due to structural constraints. They state that *'community arts programmes are no quick-fix to social exclusion and poverty, and that they may even increase the risk of reinforcing or widening social inequalities if the benefits accrue disproportionately to those who already enjoy relatively high levels of economic, social and cultural capital'* (p.715). They stress the importance of considering cultural and socio-ecological context factors when planning music activities.

In other papers, discussions of impact on inequalities are implicit. For example, socio-spatial awareness emerges as relevant in Rimmer's (2012) work as well. He argues that the use of school settings tends to attract 'school committed' pupils who often have prior (private)

music experience and recommends taking activities out of schools and into community youth centres to reach 'at risk' groups. Projects need to account for existing structural inequalities and social capital otherwise they risk reinforcing or widening disparities (Hampshire and Matthijsse, 2010). Furthermore, the failure to adopt participatory approaches that offer children choice and control over their music experiences may negatively impact on outcomes (Rimmer, 2012; Marsh, 2012; Barrett & Baker, 2012; Hampshire & Matthijsse, 2010). It is imperative that the essence of community music is not lost, 'community music is music-making with social goals' (Rimmer, 2012:331).

Music engagement may help at risk youth to develop transferable life skills that may help them to leave a pathway into crime (Barrett & Baker, 2012). Bittman et al. (2009) found that intervention effects were retained until after 6 weeks of their programme, although note that a longitudinal study is required to fully explore the sustainability of outcomes. Miranda and Gaudreau (2011) suggest that music could be used to promote family bonding and communication between parents and adolescents, while the absence of these bonding opportunities may leave adolescents marginalised.

Despite much optimism in how music engagement may mitigate risk and enhance positive wellbeing and development outcomes at the individual level, none of the studies have explored how structural level factors that reproduce inequalities, may be influenced.

3.7 Gaps in the current state-of-the science linking music with health and wellbeing of children and adolescents (e.g. theoretical, methodological (designs, maturity/fidelity of approaches, outcomes, quality of implementation) and implementation)

The current evidence base for the role of music in relation to health and wellbeing outcomes of children and adolescents is extremely weak due to gaps in the quality of research. There is little theoretical framing of research in a systematic and substantive way and methodologically studies are weak and flawed. Most research is at the exploratory case study level. Even multi-site initiatives are poorly 'evaluated' and mainly involve sketchy pre-post interviews. The papers that were included in this review suggest a tendency to 'overplay' anecdotal observations and effects.

Areas emerging from the studies that are ripe for future research include:
- Outcomes focus – adoption of a more critical approach to what is being measured/evaluated
- Methodology – account for the complexity of social impacts associated with unique arts based activities
- Participatory approaches – need to involve and listen to the voice of the child/adolescent in community music projects

Questions have been raised in this review over the outcomes that are being measured or evaluated. The review has included critiques of the recent emphasis on outcomes focused research in the field of arts and health and social impact. Hampshire and Matthijsse (2010) use Daykin's (2007) work to highlight how an increasing focus on *outcomes* can obscure learning from the *processes* through which participation in arts/music can increase wellbeing.

Barrett and Baker (2012) caution against suggesting outcomes can be achieved through music that have arisen in a non-music context. Rimmer (2012) notes the challenges to quantify the social impacts of arts activities, which raises methodological questions for arts. and health and wellbeing research; in particular creating and working with methodologies that are sensitive to, and able to account for, the complexities of social impacts encountered in arts experiences. Rimmer (2012) draws on the work of Belfiore and Bennett (2007, cited in Rimmer, 2012:332) to argue that current research has been 'largely based on a fragmented and incomplete understanding of the cognitive, psychological and sociocultural dynamics that govern the aesthetic experience'.

Other methodological questions that have been raised in the reviewed studies include:
- Establishing cause and effect
- Establishing baselines
- Capturing long term outcomes
- Quantifying progress (in relation to self-esteem, confidence, motivation or quality of life)
- Child's voice
- Participatory methods – reflect findings that highlight need for participatory approaches in practice

The latter two points connect to a narrative threaded throughout the studies of listening to and involving children in their musical experience (Barrett and Baker, 2012; Hampshire and Matthijsse, 2010; Marsh, 2012; Rimmer, 2012) and extending this to facilitating for the child's voice to be heard through the research process. The voice and inclusion of parents and families is a further area that is underdeveloped and future research could help to address this lacuna in knowledge and understanding.

4.   Conclusions and Recommendations

Due to the inclusion and exclusion criteria (e.g., time period of 2004-2014, English language publications), key terms, databases, it is possible that some useful and high quality studies have been missed that could have provided further evidence to support or refute the findings of this literature review. However, every effort was made to avoid this through quality assurance and sharing of papers between and across the three WP teams. It is also important to remind the reader that as the lens used to review and evaluate the studies included here is based on the EPPI-Centre steps and requirements, our frame of reference is likely to be different from that of the authors.

All seven studies provided some evidence that active music making can play an important role in addressing health issues, by improving emotional wellbeing, self-esteem and social cohesion. However, the research in this area is methodologically too weak to draw any

meaningful conclusions about the links between music participation and health and wellbeing outcomes for children and adolescents in community settings. Health and wellbeing are defined and operationalized in a wide variety of ways. Similarly, music participation takes different forms, including singing, drumming and multi-instrumental arrangements. Qualitative, observational and quantitative methods have been used to examine the benefits of music. But the small number of studies and substantial heterogeneity of approaches render study findings incomparable. Similarly, findings tend to be broad, with conclusions at times overstating the findings, anecdotal and thus difficult to assess in their credibility and transferability. We did not find any evidence of how music participation in terms of physical health benefits for children, adolescents or families in non-clinical groups. Most research focused on emotional wellbeing and socio-behavioural benefits.

All studies exclusively focused on one child or family member but did not examine the possible impact of music participation on the wider family. Even the one study that examined emotional wellbeing and the relationship with coherent adolescent-parent listening preferences did not explore wellbeing benefits for parents or siblings. The intergenerational singing group suggests benefits for the children and the elderly but since the study only relied on key informant interviews there is no evidence for this claim. Evidence on how music participation can play a role in reducing social and health related inequalitiesis extremely limited and at best anecdotal. Participatory approaches that foster choice in the design of the music programme and the music performed seems to be important to retain the young participants' interest and engagement.

4.1 Implications for Future Research

Clearly, the research on the role of music participation in contributing to health and wellbeing outcomes is emerging. More precise definitions and taxonomies of health and wellbeing outcomes are needed that allow for a systematic operationalisation. At present there is no clear understanding of how music may produce health and wellbeing benefits. Theoretical models that are empirically tested are largely missing. Where they exist they need to be connected to the empirical work right from the outset. Future research needs to strive for greater robustness and quality, especially in the systematic planning and incorporation of evaluations of structured music programmes, a clearer articulation of theoretical mechanisms of change that could be subject to systematic testing, and the use of valid and tested data collection methods. Participatory research methods may be used but require robust approaches to produce research findings of transferrable and credible value. Future research should moreover examine how positive gains at the individual level can collectively transform structural level factors that are responsible for social inequalities. Especially, prospective studies are needed to examine changes over time.

4.2 Implications for Policy and Practice

As mentioned earlier, the studies reviewed here, emphasise decision making, empowerment, participation and choice, with one reporting disconnect when children did not have a say in what music they could play. Therefore, music initiatives should use participatory approaches that foster choice in the design of the music programme.

The initiatives should consider how they could have a positive impact on not only individuals, but also families and communities, and identify ways of changing structural factors leading to social inequalities. Therefore, it is important that music initiatives are available to individuals from low SES and in a non-stigmatising manner.

As seen earlier, even the congruence of music listening performances between family and children can lead to a positive impact on emotional wellbeing. Therefore, it is important that music initiatives foster ongoing parental participation in a meaningful manner.

Although in recent times media has played a big part in breaking stereotypes related to music, gender and SES, one of the studies suggests that there are still some stereotypes prevalent among some young people that need to be explored. By engaging and listening to young people and families from different communities with a variety of cultural norms, practitioners can ensure the participation of more people from a variety of backgrounds, gender, age and ethnicity. Above all, it is important that the essence of community music is not lost, which as pointed out earlier is about making music with social goals.

References

Barrett, M. S., & Baker, J. S. (2012). Developing learning identities in and through music: A case study of the outcomes of a music programme in an Australian juvenile detention centre. *International Journal of Music Education*, *30*(3), 244–259. doi:10.1177/0255761411433721

Beynon, C., Heydon, R., O'Neill, S., Zhang, Z., & Crocker, W. (2013). Straining to Hear the Singing: Toward an Understanding of Successful Intergenerational Singing Curriculum. *Journal of Intergenerational Relationships*, *11*(2), 176–189. doi:10.1080/15350770.2013.782747

Bittman, B., Dickson, L., & Coddington, K. (2009). Creative Musical Expression as a Catalyst for Quality-of-life Improvement in Inner-city Adolescents Placed ina Court-referred Residential Treatment Program *Advances*, 8–19.

Blacking, J. (1995). *Music, Culture, and Experience*. University of Chicago Press.

Brown, L. S., & Jellison, J. A. (2012). Music research with children and youth with disabilities and typically developing peers: a systematic review. *Journal of Music Therapy*, *49*(3), 335–364.

Carr, C., Odell-Miller, H., & Priebe, S. (2013). A systematic review of music therapy practice and outcomes with acute adult psychiatric in-patients. *PloS One*, *8*(8), e70252. doi:10.1371/journal.pone.0070252

Fritz, T., Jentschke, S., Gosselin, N., Sammler, D., & Peretz, I. (2009). Universal recognition of three basic emotions in music. *Current Biology, 19,* 573-576.

Hampshire, K. R., & Matthijsse, M. (2010). Can arts projects improve adolescents's wellbeing? A social capital approach. *Social Science and Medicine*, *71*(4), 708–716. doi:10.1016/j.socscimed.2010.05.015

Hanser, S. B. (2014). Music therapy in cardiac health care: current issues in research. *Cardiology in Review*, *22*(1), 37–42. doi:10.1097/CRD.0b013e318291c5fc

Marsh, K. (2012). "The beat will make you be courage": The role of a secondary school music program in supporting young refugees and newly arrived immigrants in Australia. *Research Studies in Music Education*, *34*(2), 93–111. doi:10.1177/1321103x12466138

Miranda, D., & Gaudreau, P. (2011). Music listening and emotional well-being in adolescence: A person- and variable-oriented study. *Revue Européenne De Psychologie Appliquée/European Review of Applied Psychology*, *61*(1), 1–11. doi:10.1016/j.erap.2010.10.002

McDermott, O., Orrell, M., & Ridder, H. M. (2014). The importance of music for people with dementia: the perspectives of people with dementia, family carers, staff and music therapists. *Aging & Mental Health*, *18*(6), 706–716. doi:10.1080/13607863.2013.875124

Molnar-Szakacs, I., & Heaton, P. (2012). Music: a unique window into the world of autism. *Annals of the New York Academy of Sciences*, *1252*(1), 318–324. doi:10.1111/j.1749-6632.2012.06465.x

Rimmer, M. (2012) The participation and decision making of "at risk" youth in community music projects: an exploration of three case studies. *Journal of Youth Studies*, *15*(3), 329–350. doi:10.1080/13676261.2011.643232

Wood, L., Ivery, P., Donovan, R., & Lambin, E. (2013). "To the beat of a different drum": improving the social and mental wellbeing of at-risk young people through drumming. *Journal of Public Mental Health*, *12*(2), 70–79. doi:10.1108/jpmh-09-2012-0002

Appendix 1: Search Terms

CINAHL	music, singing, drumming, health, social determinants of health, mental health, psychological well-being, quality of life, depression, social isolation, self concept, social capital, community programs **Music:** (MM "Music") OR (MM "Singing") OR "drumming" **Health:** (MM "Health") OR (MM "Social Determinants of Health") OR (MM "Mental Health") **Wellbeing:** (MM "Psychological Well-Being") OR (MM "Quality of Life") OR (MM "Depression") OR (MM "Social Isolation") OR (MM "Self Concept") **Community/social:** (MM "Social Capital") OR (MM "Community Programs")
MEDLINE	music, singing, drumming, health, mental health, social determinants of health, health promotion, well-being, quality of life, depression, social support, self concept, community integration, socioeconomic factors **Music:** (MM "Music") OR (MM "Singing") OR "drumming" **Health**: (MM "Health") OR (MM "Mental Health") OR (MM "Social Determinants of Health") OR (MM "Health Promotion") **Wellbeing:** "well-being" OR (MM "Social Isolation") OR (MM "Depression") OR (MM "Social Support") OR (MM "Self Concept") **Community/social:** (MM "Community Integration") OR (MM "Socioeconomic Factors")
SCOPUS	music, sing*, drumming, health, mental health, health inequalities, health promotion, well-being, self concept, quality of life, depression, social isolation, community, social capital, belonging, inequalit*, exclusion, social inclusion, identity Music: (**music**) OR (**sing***) (**drumming**) Health: (**health**) OR (**mental health**) OR (**health inequalities**) OR (**health promotion**)) Wellbeing: (**well-being**) OR (**self concept**) OR (**quality of life**) OR (**depression**) OR (**social isolation**) Community/social: (**community**) OR (**social capital**) OR (**belonging**) OR (**inequalit***) OR (**exclusion**) OR (**social inclusion**) OR (**identity**)
ASSIA	background music, ballads, blues music, calypso, classical music, composers, country music, dance music, drumming, folk music, heavy metal music, hip hop music, hymns, indie music, jazz, love songs, lullabies, lyrics, melodies, motets, music, national anthems, nursery songs, opera, orchestras, political songs, pop music, protest music, punk rock music, rap music, rave music, reggae music, rock music, salsa music, singing, songs, spirituals, health, mental health, health promotion, health inequalities, economic wellbeing, emotional wellbeing, professional wellbeing, psychological wellbeing, psychosocial wellbeing, sense of coherence, social wellbeing, spiritual wellbeing, subjective wellbeing, wellbeing, quality of life, depression, isolation, community based, identity, inequalities, social inequalities, health inequalities, social capital **Music**: SU.EXACT.EXPLODE("Background music" OR "Ballads" OR "Blues music" OR "Calypso" OR "Classical music" OR "Composers" OR "Country music" OR "Dance music" OR "Drumming" OR "Folk music" OR "Heavy metal music" OR "Hip hop music" OR "Hymns" OR "Indie music" OR "Jazz" OR "Love songs" OR "Lullabies" OR "Lyrics" OR "Melodies" OR "Motets" OR "Music" OR "National anthems" OR "Nursery songs" OR "Opera" OR "Orchestras" OR "Political songs" OR "Pop music" OR "Protest music" OR "Punk rock music" OR "Rap music" OR "Rave music" OR "Reggae music" OR "Rock music"

	OR "Salsa music" OR "Singing" OR "Songs" OR "Spirituals") **Health**: SU.EXACT("Mental health") OR SU.EXACT("Health promotion") OR SU.EXACT("Health") OR SU.EXACT("Health inequalities") **Wellbeing**: SU.EXACT.EXPLODE("Economic wellbeing" OR "Emotional wellbeing" OR "Professional wellbeing" OR "Psychological wellbeing" OR "Psychosocial wellbeing" OR "Sense of coherence" OR "Social wellbeing" OR "Spiritual wellbeing" OR "Subjective wellbeing" OR "Wellbeing") OR SU.EXACT("Quality of life") OR SU.EXACT("Depression") OR SU.EXACT.EXPLODE("Isolation" OR "Purdah" OR "Seclusion") **Community/social:** SU.EXACT("Community based") OR SU.EXACT("Identity") OR (SU.EXACT("Inequalities") OR SU.EXACT("Social inequalities") OR SU.EXACT("Health inequalities")) OR SU.EXACT("Social capital")
Search combinations	Music + health Music + wellbeing Music + community/social

Appendix 2: Data extraction against each research question

Paper 1: Hampshire and Matthijsse (2010) Can arts projects improve adolescents' wellbeing? A social capital approach

What do we know about the relationship between music engagement/participation and health and well-being in children and adolescents?	Focus of study on social and emotional wellbeing as they relate to social capital: this being one of the key pathways through which arts participation is thought to impact on health and wellbeing more widely. Findings: • eeling connected – positive experiences of SingUp – friendships • eeling disconnected – less positive experiences of SingUp – for children Middlemoor and Parktown – barriers to attending singing sessions – not seen as 'cool' whereas for Daleside children – it was difficult to fit classes into an already busy schedule • isconnections and unsustained participation – children wanted to learn different/modern songs and felt alienated from the forms of music chosen for SingUp
What theories and theoretical foundations are used in the empirical publications linking music engagement/participation with health and wellbeing in children and adolescents?	Uses social capital (Bourdieu) to frame study – focus on how social and emotional wellbeing relate to social capital – drawing on increasing interest on relationships between social capital, health and wellbeing. Bourdieu (1997) –social capital can be used to exclude and include and that it interacts with other forms of capital (economic and cultural) and wider social structures to reproduce social inequalities – this is the main argument presented in the paper from the findings. Argue that none of social capital's 'founding fathers' (Bourdieu, Coleman, Putnam) took seriously children's role in generating, using and negotiating social capital – children constructed as passive recipients of adult's social capital. Reference made to 'new sociology of childhood' that situates children's agency within social capital (see p.709). Critique of SingUp programme/paper – highlight how some of the children disconnected from the programme as they 'felt alienated from the forms of music that SingUp seemed to be about' – as noted by one child: 'I would like to sing different songs but they (music leaders) wouldn't let me sing the songs I like'. Link to social capital could have been further developed and how the agency of the child wasn't integrated into the musical experience helps explain the limited development of social capital amongst children from the more deprived areas. (See Marsh (2012) paper whilst not referring to social capital demonstrates how young refugees and newly arrived immigrants can be made to feel included and develop a sense of belonging through staff responding to individual differences and including the children as active agents in the development of social capital – also Barrett and Baker study on work with young offenders)
What specific population groups?	SingUp: £40 million UK gov't funded singing initiative for primary school aged children. 14 SingUp communities across UK – located in school and community-based singing projects. Paper focus on SingUp Dales – 3 groups established with mainly primary 5 and 6 children (9-11 years) – mainly girls. Each group met weekly. Tried to involve parents (costume making, helping at rehearsals) – not successful. Three groups: • arktown and Middlemoor – urban settlements former mining towns – now with high socio-economic deprivation •

	aleside – historic market town – middle class, prosperous town
What study designs and methodological approaches have been used?	**Study Design** Qualitative: anthropological and participant observation. 18 mths fieldwork **Selection** Not clear on how participants were selected – as participation in the project was low can conclude that all children, parents and staff were asked to participant. *Participants* Children and teachers **Vague on numbers of children and from which areas** Age: mainly children aged 9-11 yrs (**not clear on age of children**) • Gender: mainly girls (evidence on how number of girls was statistically significant compared to control group) • Ethnicity: 3 areas 99% white British • Disability: no reference made to disability. • Socio-economic status: children **homogenised** – those from Parktown and Middlemoor presented as all coming from low socio-economic backgrounds as opposed to the children from Daleside coming from middle class backgrounds. *Setting* 3 x SingUp Gov't funded singing programmes in NE England: Parktown, Middlemoor and Daleside. Classes held in schools after school time. *Methods* • **Control group of children – not for other participants (parents and staff).** • Self report of questionnaire by children (assisted by researchers) 41 at baseline, 51 control group. Planned for questionnaire completion: baseline, 8mths, 16mths – only a few children completed full programme and therefore only a few completed all 3 stages of questionnaire – **no detail of numbers of children who completed each stage.** • 48 children interviewed, 28 interviewed more than once (don't say why only some were interviewed more than once and whether more than once = twice or more) or which areas the children came from. • Interviews: 8 parents, each adult working with SingUp + 2 teachers – again no detail on locations. • Focus Groups: 6 with children (2 with each group) and 3 with parents. • Observation *Analysis* • Nvivo *Findings* Arts projects can impact positively on adolescents's social and emotional wellbeing, can't assume changes will be uniform – need to account for structural inequalities. *Credibility of data* • Findings often refer to single examples, ie p.713 less positive effects of SingUp: differing opinions between mother and grandmother led to a fall out between them and reference is made to the experience of one 13yr old boy. • Low retention/full complete • Small numbers • Not generalizable but strong conceptually. • Missing data – limited detail on participants, selection and content/focus of interviews. • Control group – noted in methods but not integrated into findings/discussion.
Where have most of these studies been conducted?	Out of school activities, Yorkshire Dales, UK
What do we know about music and its role	Paper engages with Bourdieu's theorising of social capital that it can exclude as well as include – authors highlight that the findings represent 'a hierarchy of forms of cultural capital (in this case, privileging certain kinds of tradition and forms of music as indicating

in addressing social and health-related inequalities in children and adolescents?	superior taste) which is both emblematic and constitutive of social inequalities' (p.712). Children from deprived towns with little economic or cultural capital gained little social capital from SingUp Children from prosperous town with already established economic and cultural capital added to their social capital Draw on Leonard's (2005) work on 'convertability' and the ability to convert one of type of capital into another – hardest for those starting out with limited capital due to structural constraints. Argue that 'community arts programmes are no quick-fix to social exclusion and poverty. Indeed, there is even a risk of reinforcing or widening social inequalities if the benefits are seen to accrue disproportionately to those who already enjoy relatively high levels of economic, social and cultural capital' (p.715).
What are the gaps in the current state-of-the science linking music with health and wellbeing of children and adolescents, including theoretical, methodological (designs, maturity/fidelity of approaches, outcomes, quality of implementation) and implementation?	Need for arts projects to research and build upon local cultural capital – to ensure that arts initiatives are culturally meaningful and relevant. Need to listen to and respond to children as active agents in identifying what is meaningful to them ie type of music. Uses Daykin's (2007) work to highlight how an increasing focus on *outcomes* can obscure learning from the *processes* through which participation in arts/music can increase wellbeing (p.709). General comment: unlike other papers it doesn't see music as a way to engage, communicate with children from deprived areas/groups (ie refugees (Marsh, 2012) and at risk youth (Wood, et al., 2013) and to bring children together, develop group working and other skills. Instead it highlights some potential negative impacts of music initiatives.

Paper 2: Rimmer (2012) 'The participation and decision making of 'at risk' youth in community music projects: an exploration of three case studies

What do we know about the relationship between music engagement/ participation and health and well-being in children and adolescents?	Paper draws on findings from a larger three-year ESRC funded project – aims of which are to explore the complexities and multi-dimensionality of adolescents's participation in community music activities and their potential role in community development.
	Study doesn't deal directly with health and nor does it refer to wellbeing – main focus on the participation in decision making in community music youth projects. However, the study does explore issues of empowerment, self actualisation and feeling valued – all key concepts associated with wellbeing. Concludes the factors that will contribute to addressing these concepts are that community music activities should consider:
	-
	    ocation: Non-school based
	-
	    articipatory: include the adolescents in decisions over their engagement with music and the social context of their musical experience
	-
	    utcomes: need to be broader than being solely music focused - 'community music is music-making with social goals' (p.331)

What theories and theoretical foundations are used in the empirical	Not conceptually framed study

publications linking music engagement/participation with health and wellbeing in children and adolescents?	
What specific population groups?	Focus on engaging 'at risk' youth in community music project – one of the case studies (school based) failed to retain school's 'at risk' youth
What study designs and methodological approaches have been used?	*Study Design* Qualitative: 3 case studies, ethnographic 3 yr study Researcher – during project: researcher/observer, trainee community musician and project co-participant – led to development of good rapport with participants and good insight into issues surrounding community music projects for 'at risk' youth (**this involvement isn't discussed/integrated into analysis**) *Selection* Doesn't say – can assume all attendees were asked to take part. *Participants* Rosston school project: 8-10 female participants (aged 12-14 yrs) – mainly streamed within highest achieving classes as well as prior music experience – note that project wasn't reaching children at other spectrum of ability/access to music. Belfield youth centre: 4 attendees (same no. as staff) – female, aged 11-18 yrs, friends – 3 left during course of project leaving only one. Bole street youth centre – inner city housing estate – social problems – 'at risk' youth. Appears that only boys were involved in this project, aged 16-19yrs – says that there were 15 in the project but doesn't state if all were involved in study. Staff *Setting* 3 x Youth Music projects: Rooston school project, Belfield youth centre project and Bole Street youth centre project *Methods* • Group discussion sessions (in-formal) • Participant observation • Semi-structured interviews with: adolescents (approx. 40 – **seems strange that they've only provided an approx. no**. – seems like an overestimate: Rooston – 8-10 participants, Belfield – 4 down to 1 participant and Bole street – don't give a figure but suggests 15 at most = max. 29???), community musicians, project partners and other arts organisations – **very vague - no numbers or details of organisations** *Analysis* Analysed using qualitative data analysis software – little additional information. *Findings* Rosston school project – 'school committed' pupils, focus on good quality musical outcomes, no involvement in decision making – failed to retain school's 'at risk' pupils. Belfield youth centre – problems retaining adolescents – by the end only one girl remained – the other 3 left as felt they had no influence/input to music sessions. Bole street youth centre - responded to adolescents's musical tastes and devolved decision making to the adolescents. *Credibility of data* • Findings seem a little too convenient – don't explore complexity of issues • **Acknowledges - small sample size limits any claims** • Not generalizable • Not conceptually strong

	• No control group
	• Missing data – selection, interviewees, analysis, content/focus of interviews
Where have most of these studies been conducted?	Three case studies: 1 x after school in a school, 2 x youth centres – findings argue that location of community music projects is important and that school based activities are likely to attract and retain 'school committed' children, likely to already be engaged in (private) music lessons. Whereas community music projects based within youth centres are more likely to reach 'at risk' youth – however, the findings further complicate this by highlighting participatory practices as being the key to impact on all adolescents. UK
What do we know about music and its role in addressing social and health-related inequalities in children and adolescents?	Refers to Youth Music – established in 1999 – as a dedicated funding body for youth-focused community music activities – esp. in 'Action Zones' – areas identified as in social and economic need – where might engage with 'at risk' youth. Paper engages with the wider debate around youth participation and ways to engage 'at risk' adolescents in activities that can begin to build confidence and a sense of self worth – findings provide useful insights for adopting strategies for developing community music projects. As noted above music activities should consider: - ocation: Non-school based - articipatory: include the adolescents in decisions over their engagement with music and the social context of their musical experience - utcomes: need to be broader than being solely music focused - 'community music is music-making with social goals' (p.331). However, not clear/explored how the findings/outcomes contribute to addressing inequalities at a structural level – weakness in the literature that a focus on health/wellbeing at an individual level doesn't allow for integration of the structural factors underlying inequalities.
What are the gaps in the current state-of-the science linking music with health and wellbeing of children and adolescents, including theoretical, methodological (designs, maturity/fidelity of approaches, outcomes, quality of implementation) and implementation?	Paper provides useful insight into current research on community music participation (pp.331-332) – increase in community music projects – led to 'increased expectation and an emphasis upon 'outcomes'' (Price, 2002:3, - p.331) – challenges to quantify the social impacts of arts activities – these include: - stablishing cause and effect - stablishing baselines - apturing long term outcomes - uantifying progress (in matters such as confidence, motivation or quality of life) - **stablishing methodologies capable of accounting for the complexity of social impacts – notes that recent research have been 'largely based on a fragmented and incomplete understanding of the cognitive, psychological and sociocultural dynamics that govern the aesthetic experience' (Belfiore and Bennett, 2007 – Rimmer, 2012:332).**

Paper 3: Marsh (2012) "The beat will make you be courage": The role of a secondary school music program in supporting young refugees and newly arrived immigrants in Australia

What do we know about the relationship between music engagement/part icipation and	Examines the ways that a school music programme provided avenues for: - ommunication - cculturation -

health and well-being in children and adolescents?	ntegration
	-
	     ense of belonging
	-
	     mpowerment
	'The musical experiences provided within the school enhanced the possibilities for true integration, rather than separation, marginalisation (both forms of social isolation), or assimilation (where home cultural identity is completely subsumed by the host culture … They therefore exemplify practices that can be adopted in other educational environments, adding to the many special music programs designed to meet the needs of refugees, immigrants, and marginalised adolescents' (p.108).
	'We like the music. We like all types of music because even you don't listen it, the beat will make you be courage. Music will educate someone, even if you thinking about bad things, when you listen to a music you forgot about the bad. Because encourage someone, when you are sad, when you listen to music … that will make you be happy. Music is good.'

What theories and theoretical foundations are used in the empirical publications linking music engagement/participation with health and wellbeing in children and adolescents?	No explicit theoretical framework – in relation to:
	-
	     inks between music, health and wellbeing – reference made to work of Hesser and Heinemann (2010) that music is 'an effective resource in the healing process of individuals and groups who have been emotionally and physically afflicted' (p.xi, p.95 in paper).
	-
	     performances there are references to Turino's (2008) notion of participatory music performance and 'social synchrony' – which is a 'crucial underpinning of feelings of social comfort, belonging and identity' (p.44, p.106 in paper).
	The paper could fit well with social capital approach in Hampshire and Matthijsse (2010) – by adopting a person-centred approach that is responsive to individual difference – the outcomes of the programme are sense of belonging, social connections: social capital.

What specific population groups?	Newly arrived immigrant and refugee young adolescents (12-18yrs)
What study designs and methodological approaches have been used?	*Study Design* Qualitative: ethnographic - one case study from multi-case study Research team visited site one day per week for 7 months – became participant observers *Selection* Not clear – can assume all children involved in music sessions were asked to participant. *Participants* Refugee and newly arrived immigrant children (14-18yrs) – table provides summary of ages, gender, country of origin and if recently arrived or longer term. *Setting* Freemont Intensive English Centre, Sydney – secondary age pupils. Pupils spend 9mths to 1yr in centre before moving on to ordinary secondary school/vocational education. *Methods* • Observations: children observed engaging in music activity in school-based elective music and dance groups, public performances – children and staff informally interviewed during observations - video-recorded and extensive field notes taken. • Interviews: at end of school year - formal semi-structured conducted with two focus groups selected from two cohorts of students – newly arrived (5 children) and one group who had been in Australia for approx. a year (3 children). Formal semi-structured interview was conducted with staff with greatest responsibility for the music programmes (2 staff). *Analysis* Analysed using open and axial coding methods and analytical categories were developed using grounded theory techniques – methodological, time and investigator triangulation. *Findings* Music intervention led to development of interpersonal connections, feeling of belonging,

	self esteem, social cohesion and collaboration amongst refugees/new immigrants from different cultural backgrounds. *Credibility of data* • Missing data – selection, content/focus of interviews • No control group • Not generalizable • Not conceptually grounded
Where have most of these studies been conducted?	Specialist secondary school for newly arrived immigrants and refugees School music programme Sydney, Australia
What do we know about music and its role in addressing social and health-related inequalities in children and adolescents?	• ifference: importance of listening to and working with the children. Collaboration, creativity and inclusion – *'we use the musical talent we have on hand in our students. If we have a violinist, cellist, pianist, or player of an exotic instrument from their own culture the performance will be built around that.' 'We are very drawn to the musical fusion notion, and this is an expression of a positive view we have of working across cultures and joining together.'* • roup working : communities of practice so that working together is important. Group performance understood as form of social cohesion – what Turino (2008:28) calls 'participatory performance', in which 'stylised sound and motion are conceptualised most importantly as heightened social interaction' (p.105 in paper). Performance for the children was 'an inclusive social experience'. • lobal and local connections – allow children to play their cultural music but also allow for well known popular/global music to be played together (Michael Jackson).
What are the gaps in the current state-of-the science linking music with health and wellbeing of children and adolescents, including theoretical, methodological (designs, maturity/fidelity of approaches, outcomes, quality of implementation) and implementation?	Suggest further longitudinal studies that investigate the effect of long-term engagement in musical activities (related to home or host culture) on acculturative processes during resettlement would have benefit for development of appropriate support programs in a variety of educational settings. Question of how the outcomes attained during the school music programme are maintained once the children leave and transition to new schools/college/work.

Paper 4: Barrett and Baker (2012) Developing learning identities in and through music: a case study of the outcomes of a music programme in an Australian juvenile detention centre

What do we know about the relationship between music engagement/part	Explores participants' perceptions of the learning outcomes (musical and extra-musical) that emerge from participation in a music programme in one Australian juvenile detention centre. Based on existing evidence of music programmes aiming to improve detainees' mental and physical health and well-being, develop pro-social behaviours that assist in rehabilitation into the community and diminish the incidence of recidivism – music

icipation and health and well-being in children and adolescents?	provides a means to contribute significantly to the learning and life outcomes of detainees in juvenile justice centres. Scottish study: Anderson and Overy (2010) – young offenders (18-22yrs) suggests that engagement in music programmes develops participants' capacity for team-work and commitment to educational activities and provides outlet for stress. N. Irish studies (Cork City Council, 2009; Odena, 2007) music participation is a powerful mechanism for advancing social inclusion. Australian Children's Music Foundation (ACMF) has implemented a number of music programmes in juvenile detention centres as a means to assist adolescents to develop their sense of self-worth, build skills in self-discipline and communication, foster resilience and re-engage with life and the community – skills that can be transferred to re-integration into school system or transition into employment on release. Findings:
	
	  - usical learning outcomes
	  - xtra-musical learning outcomes:
	
	 - elf-esteem and confidence *'it's all about self-esteem and confidence … that's the overall benefit to adolescents'* (AJDC programme manager)
	
	 - edefinition of self – that doesn't evolve around a life of crime and sense of community
	
	 - ommunication skills
	
	 - rust and positive relationships between residents and staff – *'I've also noticed that the programme's also built better relationships between staff members at the centre, and the residents, and I can only imagine that this will translate to the outside world, and these adolescents will get on better, a little better, with authority figures, or older people, because of the exposure to, building a good relationship with an older person'* (ACMF music teacher).
	 Toby: *'You gotta have music. It's good to play, itself, so. It gives you somethin' to do. It's good'.*
	 Suggest there are 'long term benefits'(p.254) but can't evidence this.

What theories and theoretical foundations are used in the empirical publications linking music engagement/participation with health and wellbeing in children and adolescents?	No theoretical foundation
What specific population groups?	Young offenders
What study designs and methodological approaches have been used?	*Study Design* Qualitative case study – over 10 months Methodology designed to be sensitive to the context and population (inc. low literacy levels) *Selection*

	Unclear – say out of 22 detainees on the music programme 17 took part in the study but not how they were selected.
	Participants
	Approx. 33 detainees during study – 22 took part in music programme – 17 started the study, down to 10 and then 4.
	Setting
	Juvenile detention centre, many of the young offenders had extremely low literacy levels
	Ethics
	Notes ethical approval
	Methods
	Phase 1: ethics + initial context-setting interviews held with experienced ACMF (project) music teacher, principal of school and music programme manager of school – to understand context of music programme and participants aspirations for programme.
	Phase 2: individual interviews with student participants and ongoing observations of lessons. Student interviews x3: programme start (17), mid-term (10), conclusion (last interview artefact-elicited interview) (4) – reasons given for reduced no. beyond control of participants (inc. court appearance, end of sentence, removal from programme – lock down) – **low retention over full programme**
	Mid-term and exit interviews: with ACMF (project) music teacher, principal of school and music programme manager of school
	Observations of music lessons
	Phase 3: progressive analysis of data
	Analysis
	Analysis was undertaken progressively throughout the project and focused on identifying key themes that emerged from observation and interview data.
	Findings
	Engagement in programme generated musical and extra-musical (increased positive social behaviours, confidence, self-esteem and capacity to engage in and persist in learning tasks) learning outcomes – provided context through which participants developed 'learning identities'.
	Credibility of data
	• Participant member-checking of interview transcripts facilitated for trustworthiness of data and interpretation to be addressed (verbal with students and/or written with adults). Triangulation of data sources (multiple categories of participants) and data type (observation, individual and group interviews).
	• No control
	• Low retention/full complete
	• Not conceptual
	Missing data: limited demographic data and info on content/focus of interviews.
Where have most of these studies been conducted?	Juvenile detention centre, Australia
What do we know about music and its role in addressing social and health-related inequalities in children and adolescents?	ACMF music teacher: '*if you've learnt music through your childhood, you're more likely to be open-minded and less bigoted, because you accept difference, as a thing of beauty, rather than, um, something to be afraid of. I think that music teaches you that lesson'.* Identify transferable skills and long term benefits for the young offenders as they are released – use their learning from music and apply themselves and increase their learning in other curriculum areas.
What are the gaps in the current state-of-the science linking music with	Little research on music, wellbeing in juvenile detention contexts – more on adult prisons.

health and wellbeing of children and adolescents, including theoretical, methodological (designs, maturity/fidelity of approaches, outcomes, quality of implementation) and implementation?	

Paper 5: Beynon, Heydon, O'Neill, Zhang and Crocker (2013) Straining to hear the singing: toward an understanding of successful intergenerational singing curriculum

What do we know about the relationship between music engagement/participation and health and well-being in children and adolescents?	Based on assumption that intergenerational singing curricula can facilitate well-being through the production of expansive learning opportunities and relationship-building between skipped generations. Study aimed to discover the prevalence, form and characteristics of intergenerational singing programmes in a 50km radius of Ontario. 170 organisations offering children and adult singing – only 36 had offered some form of intergenerational singing activity. Main aim of research – respond to: What are the constituents of intergenerational singing curricula that can produce participant well-being through the development of opportunities for expansive communication and identity options? Singing together – helps children accept ageing as a natural part of the life cycle: - eveloping empathy toward older people - ncreasing appreciation for diversity - nhancing communication.
What theories and theoretical foundations are used in the empirical publications linking music engagement/participation with health and wellbeing in children and adolescents?	No
What specific population groups?	Organisations offering singing to children and older people – inc. long-term care residences, retirement homes and child care centres, early years centres Age of children involved – not clear
What study designs and methodological approaches have been used?	*Study Design* Qualitative *Selection* Initial telephone survey - organisations offering singing to older people and those offering singing to children both involved in this stage which led to identifying 7 organisations for

	telephone interviews.
	Participants
	No information on role/position of 'informants' within their organisation or the types of organisations selected.
	Setting
	Organisations offering singing to older people and children – no further detail
	Ethics
	Noted received
	Methods
	Phase 1 – to identify organisations offering intergenerational singing. Telephone surveys focused on details of intergenerational singing programme – held with 134 organisations – of which only 36 organisations offered/had offered some form of intergenerational singing. 7 of 36 participated in follow up in-depth telephone interview – no detail of the types of organisations interviewed or the position/role of interviewees in organisation. Provide info on focus of interviews
	Analysis
	Descriptive statistics for nominal level data
	Content analysis to explore research questions
	Findings
	Impact on quality of life of intergenerational programming for older people and children through intergenerational singing.
	Credibility of data
	- Findings often refer to response of one person. - Study participants were not those participating in singing programmes but representatives of organisations providing singing programmes – no detail of role/position within organisation or info on organisations - No conceptual analysis - Not generalizable - No control group - issing data – on participants, analysis
Where have most of these studies been conducted?	Centres offering intergenerational singing opportunities, Ontario, Canada
What do we know about music and its role in addressing social and health-related inequalities in children and adolescents?	Learning music together and teaching one another served as a great equalizer. Focus of the study is not directly related to music, health and children – but on intergenerational programmes and curricula development. But highlights the potential for intergenerational singing to address isolation and sense of wellbeing of both children and older people.
What are the gaps in the current state-of-the science linking music with health and wellbeing of children and adolescents, including theoretical, methodological (designs, maturity/fidelity	Little research on intergenerational singing

of approaches, outcomes, quality of implementation) and implementation?	

Paper 6: Wood et al. (2013) 'To the beat of a different drum': improving the social and mental well-being of at-risk adolescents through drumming

What do we know about the relationship between music engagement/participation and health and well-being in children and adolescents?	Notes – growing interest in the use of music and the arts as a way of addressing mental health and social wellbeing in non-clinical/therapy settings – but published evaluations sparse – especially in 'real world' settings and with children/adolescents
	Paper describes an evaluation of the DRUMBEAT programme that uses drumming as a way to engage at-risk youth, whilst incorporating themes relating to mental wellbeing and healthy relationships. Adds to growing evidence base around the positive benefits of engagement in the arts, and the role of the arts, including drumming, can play in addressing health issues and support social and emotional development.
	DRUMBEAT (Discovering Relationships Using Music, Beliefs, Emotions, Attitudes and Thoughts) – developed in 2003 initially as an early intervention programme to prevent and build resilience to drug and alcohol use. One of main aims of programme is to reduce levels of alienation by increasing self-esteem and social competencies of participants. Programme uses themes and discussions on:
	- elf-expression
	- ommunication
	- motions
	- eelings
	- elf-worth
	- roblem solving
	- onfidence
	- eamwork
	Key focus on relationships and group processes and activities to build collaboration, group cohesiveness and to foster trust, acceptance and understanding of others. (See also Marsh (2012) – focus on group work with positive results, which is absent from Hampshire (2010) – with less positive results).
	Drumming – said to make individuals feel good and can help people feel that they 'fit in'. Group drumming can also offer children a safe and supportive environment for the development of emotional social competencies, such as listening, problem solving, sharing and acceptance of diversity – **skills that can be transferred to other areas of life** – important outcome for project.
	Focus on adolescent wellbeing and mental health promotion – supports the need for early intervention programmes to address protective and risk factors – schools ideal location for this.
	Findings:
	- 10% increase in self-esteem at program completion
	-Decrease in reported behaviour incidents for 29% of participants and in absenteeism (decrease in 5% of participants) -important as these are reductions in probably long-established recurring behaviours
	-DRUMBEAT program – led to developing self-esteem and social relationship skills

	-Teacher feedback was overwhelmingly positive, with observed benefits including:
	- positive changes in behaviour
	- utlook on future opportunities
	- illingness to learn and follow instructions
	- onfidence
	- nteractions with others
	- ense of pride and belonging
	- roup cohesion
	Other outcomes – improved communication skills, interacting with others, working as a group.
What theories and theoretical foundations are used in the empirical publications linking music engagement/participation with health and wellbeing in children and adolescents?	No theoretical foundation
What specific population groups?	School aged children (primary and secondary) – targeted pupils from high risk backgrounds, Australia
What study designs and methodological approaches have been used?	*Study Design* Evaluation – don't say but draw on quantitative and qualitative data. 10 week DRUMBEAT intervention *Selection* Targeted students from more high risk backgrounds – the risk status of individuals was established through assessment using the Holyoake pilot risk questionnaire (inc. indicators to identify adolescents 'at risk' of negative social and health outcomes inc. poor school attendance, violence, negative self image. *Participants* Pupils and teachers Between 9-27 participants per school, with a total of 190 in total participating. *Setting* 19 schools (primary n=10, secondary n=5, Intensive English Centres n=4). In each school the number of participants ranged from 9-27. *Ethics* Noted ethical approval. *Methods* • Evaluation of 10 week DRUMBEAT programme in 19 schools. • Rosenberg self-esteem scale completed by: 179 of 180 participants at the beginning and 150 out of 180 at the end of the programme – with the wording of the scale altered slightly to make it more understandable for participants. • Feedback questionnaire completed by: 155 out of 180 participants at the 5 wk mid-point and 157 at the end of the programme.

	- Authors note variation in completion figures reflects attendance on individual days – but also reflects drop out from the programme ie due to changing schools, suspension, attending other classes during DRUMBEAT session – they could also stop after first session if not enjoying it. - 15 out of 19 schools provided information in relation to student absenteeism and behaviour incidents. - Social Development Program Evaluation was completed for each participant by their teacher – commented on changes over the term in relation to relationships with peers, self esteem. - Teachers from 18 of the 19 schools also provided additional written feedback – more general on impact of the programme on the participants. - School-based data on student behaviour and teacher feedback was also collected. *Analysis* Use of SPSS – descriptive statistics and T-tests. Don't refer to analysis of qualitative data. **No real detail** *Findings* Positive changes were observed on several measures, including 10% increase in self-esteem scores by programme completion. School data showed decrease in reported behaviour incidents for 29% of participants. Overall, the DRUMBEAT programme provides a creative medium for working with at risk adolescents and helps develop self-esteem and social relationship skills. *Credibility of data* - No control group - No detail on data analysis - Not generalizable Missing data – don't provide detail on numbers from each school and results group all children from primary to secondary together so don't get a sense of how results relate to different age groups or schooling ie those without English as a first language. Also no information on dropout and how that is related to age/school.

Where have most of these studies been conducted?	19 schools:
	-
	    0 primary
	-
	    secondary
	-
	    Intensive English Centres (providing intensive English to students who have English as 2nd language)

What do we know about music and its role in addressing social and health-related inequalities in children and adolescents?	Paper demonstrates how 'real world' music interventions can go beyond basic process evaluation to collect outcome data that helps build the evidence base for mental health promotion. In a decade where concerns about the mental and social wellbeing of children and adolescents is high on the public radar, evidence-based programmes that can tackle both risk and protective factors for mental health are very much needed, and the DRUMBEAT programme serves as a promising example of this.
What are the gaps in the current state-of-the science linking music with health and wellbeing of children and adolescents,	Highlight lack of research in this area – point out real world interventions often struggle to get published as they may not have the same level of evaluation rigour as a full research study. Need to increase the links between research and practice, and to disseminate effective health promotion interventions more broadly. Limitations of study: - control group

including theoretical, methodological (designs, maturity/fidelity of approaches, outcomes, quality of implementation) and implementation?	

Paper 7: Bittman, Dickson and Coddington (2009) Creative musical expression as a catalyst for quality of life improvement in inner-city adolescents placed in a court-referred residential treatment program

What do we know about the relationship between music engagement/participation and health and well-being in children and adolescents?	Engages with problem of rehabilitating inner-city adolescents in staff-secure residential treatment centres – who enter with a range of social and psychological problems, inc mental health, drug/alcohol use, dysfunctional family. First study of its kind to test a replicable creative musical expression protocol as a catalyst for nonverbal and verbal disclosure leading to improved quality of life for inner-city youth in a court referred residential treatment programme. Music utilised as a medium through which to introduce intervention for disclosure – rather than the impact of the music being the focus of the study. Study demonstrates biopsychsocial efficacy of group drumming for adolescents in court referred residential treatment programme – results: improved social-emotional functioning. Findings: statistically significant improvements in multiple parameters include school/work performance, total depression, anhedonia/negative affect, negative self-evaluation and instrumental anger. Conclude: the protocol could be readily used by behavioural health professions without prior musical experience. 'this specific creative musical expression protocol has significant potential for enabling at risk youth to effectively move beyond their perceived obstacles, work together harmoniously, and ultimately improve the quality of their lives' (p.14).
What theories and theoretical foundations are used in the empirical publications linking music engagement/participation with health and wellbeing in children and adolescents?	No
What specific population groups?	Inner city adolescents – court referred residential programme
What study designs and methodological approaches have been used?	*Study Design* Randomised controlled crossover 6 week course and 6 week follow up *Selection* Random computer selection that excluded subjects likely to be discharged prior to completion of the protocol. *Participants* Pupils and staff 60 non-paid participants started – 8 were eliminated due to 2 or more absences resulting from illness, discharge or physician appointments

	52: Inner city youth Gender: 30 females, 22 males Ethnicity: African-American, Asian, Caucasian and Puerto Rican Age: 12-18 yrs (mean:14.5 yrs) 99% attendance through 6 week course *Setting* Court referred residential treatment programme – staff secure Children placed in treatment centre by Children and Youth Services or Juvenile Probation Dept for running away, out-of-control behaviour, truancy, anger management, inappropriate sexual behaviour, aggression, abuse/neglect/suicidal ideation, substance misuse, vandalism and assault. Adolescents stay for around 11 mths. *Ethics* Noted – informed consent. *Methods* Subjects randomly assigned in accordance with a controlled crossover design to participate in an Adolescent *Health*RHYTHMS drumming protocol. Intervention groups (6-12 participants) met with a trained facilitator at a designated time for a total of 6 consecutive weekly 1 hr sessions – control group continued with normal sessions. Dependent variable measures: • Adolescent Functional Assessment Scale (CAFAS) • Adolescent Psychopathology Scale (APS) • Adolescent Anger Rating Scale (AARS) • Reynolds Adolescent Depression Scale 2nd Edition (RADS 2) • Adolescent Visual-Analog Recreational Music Making Assessment (A-VARMMA) *Analysis* Included dependent t-tests comparing pretest and post test measures for experimental and extended conditions, as well as independent t-tests comparing changes in experimental and control group. *Findings* Statistically significant (experimental vs control) improvements in multiple parameters include school/work role performance, total depression, anhedonia/negative affect, negative self-evaluation, and instrumental anger. Extended impact – statistically significant improvements 6 weeks after completion of the protocol. *Credibility of data* • Follow-up period only 6 weeks post completion protocol – is limited • Inability to 'blind' the counselors performing standardized assessments • Control group
Where have most of these studies been conducted?	Residential treatment programmes, US
What do we know about music and its role in addressing social and health-related inequalities in children and adolescents?	
What are the gaps in the current state-of-the science linking music with health and wellbeing of children and adolescents,	Sustainability – strength of study that it includes findings for 6 weeks after project completion – extended period of time would allow for the exploration of long term sustainability/impact of intervention.

including theoretical, methodological (designs, maturity/fidelity of approaches, outcomes, quality of implementation) and implementation?	

Paper 8: Miranda and Gaudraeu (2011) Music listening and emotional well-being in adolescence: a person-and-variable oriented study

What do we know about the relationship between music engagement/participation and health and well-being in children and adolescents?	Aims of study:
	1.
	    o determine if different profiles (types) of emotional reactions following music listening (happiness and sadness) characterised different levels of emotional well-being (ie positive and negative affects) in adolescence.
	2.
	    o examine relationships between social congruence in music tastes with friends and parents and emotional well-being in adolescence.
	Fills caveat on research on parents and music listening in adolescence.

What theories and theoretical foundations are used in the empirical publications linking music engagement/participation with health and wellbeing in children and adolescents?	No
What specific population groups, settings and outcomes have been considered?	Grade 9-11 Montreal high school adolescents (15-18 years?) Initially: 329 adolescents (M= 15.34 and SD= 0.90 years of age) – 179 girls and 150 boys – box plots were used to identify outliers – final numbers: 316 (M=15.32 and SD = 0.90 yrs of age – 172 girls and 144 boys – equivalent proportion of girls and boys (X^2 = 2.48, P>0.05) Not clear how participants were selected or specific ages of children.
What study designs and methodological approaches have been used?	*Study Design* Quantitative Hypothesis 1: suggested that most adolescents would be characterised by experiencing more happiness (over sadness) from music listening Hypothesis 2: proposed that adolescents who experience more happiness (over sadness) from music listening would report better emotional well-being Hypothesis 3: predicted that social congruence in music tastes with friends and parents would be related to more emotional well-being. *Selection* Initially – 329 adolescents – voluntarily consented to filling out a self-report questionnaire in class. Box plots were used to identify all possible outliers with extreme scores on each of six variables – as a result a final number of 316 adolescents participated in the study. *Participants* Age: grades 9-11, mean = 15.32 (SD=0.9yrs) Gender: 172 girls, 144 boys French speaking – attending a large public school in Montreal Further demographic data supplied on siblings, parents, inc educational attainment of parents.

Setting
Not relevant as not place based
Methods
Measures:
Emotional well-being
French version (Gaudreau et al.,2006) of the Positive Affect Negative Affect Schedule (PANAS) was used to assess adolescents' current emotional well-being – it is a prominent self-report measure of basic moods. Used the two-factor model (positive and negative affects) – has been used in previous research on music and emotions in adolescence (Roberts et al., 1998b).
Emotional state following music listening
Used work of Lacourse (1999) – psychometric work on music in adolescence. Happiness and sadness measured with single item measure – "I feel happy/sad after listening to my favourite music …" – rated on a 4 point scale (1 = not at all, 4= a lot).
Social congruence in music tastes (friends and parents)
Social congruence in music tastes: sharing music tastes and experiencing fewer interpersonal conflicts regarding music with peers and parents. Measured with two exploratory terms for each (friends and parents): "Do your friends/parents listen to the same music as you?" "Does it happen that you quarrel with your friends/parents over the music you prefer?" Rated using a 4 point scale (1= never, 4 = very often).
Analysis
Correlations (Spearman's rho), descriptive statistics – useful in verifying the absence of significant correlations between positive and negative affect, but also the absence of significant correlations between happiness and sadness from music listening. The results have indicated that positive and negative affect were orthogonal dimensions.
Emotional profiles of music listeners
Cluster analysis – (using Ward's method and squared Euclidean distance) – results clustering of participants into subgroups:

- 9.3% (n=61) emotionally-negative listeners' (ENL) – relative to the mean of the entire sample, the centroids (means) of the members of this profile were characterised by medium levels of happiness and higher levels of sadness from music listening.

- 9.1% (n=155) emotionally-limited listeners (ELL) – lower levels of both happiness and sadness

- 1.6% (n=100) emotionally-positive listeners (EPL) – higher levels of happiness and lower levels of sadness

Emotional profiles of music listeners and emotional well-being
A 3 (cluster) X 2 (gender) MANOVA was conducted on two dependent variables: positive affect and negative affect – findings – univariate analysis for music listening profiles (clusters) indicated a significant main effect of the music listening profiles for both positive affect (F=3.87, P<0.05) and negative affect (F=7.10, P<0.01).
Social congruence in music tastes with friends/parents and emotional well-being
Two moderated hierarchical regressions were performed to examine if social congruence in music tastes with friends and parents could predict either positive affect or negative affect – gender used as a moderator. Two interaction terms were entered in the equation: 'congruence music friends x gender' and 'congruence music parents x gender' – from Cohen et al. (2003).
Findings
Identified 3 profiles:
- 'emotionally-negative listeners' (medium-happiness and higher sadness) - ha less emotional well-being
- 'emotionally-limited listeners' (lower happiness and lower sadness)
- 'emotionally-positive listeners' (higher happiness and lower sadness) – had more

	emotional well-being
	Social congruence in music tastes with friends/parents was related to more emotional well-being.
	Credibility of data
	• Self-reported measures were preliminary in nature, ie the minimal number of items (two-item scales) for social congruence in music tastes with friends/parents has probably limited reliability.
	• Exploratory – couldn't account for the social context (eg alone, with friends, family) not the motivation for listening to music.
	• Very short measure of emotional states following music listening remained exploratory and couldn't take into account the social context nor the motivation for listening to music.
	• Theoretical stance of the study remained speculative in suggesting that experiencing more happiness (as opposed to sadness) from music listening may be a factor, among others, that could further develop the emotional well-being of adolescents
	• The correlational results don't allow for examining: direction, prediction or causality between variables.
	No control
Where have most of these studies been conducted?	Not location specific. Canada
What do we know about music and its role in addressing social and health-related inequalities in children and adolescents?	Results suggest that positive individual experiences (EPL) and positive social experiences (social congruence in music tastes with friends and parents) from music listening may potentially contribute to positive youth development (emotional well-being). Music could be used to promote family bonding and communication between parents and adolescents.
What are the gaps in the current state-of-the science linking music with health and wellbeing of children and adolescents, including theoretical, methodological (designs, maturity/fidelity of approaches, outcomes, quality of implementation) and implementation?	Limited research exploring links between music listening, adolescents, parents and emotional well-being Research has rarely studied relationships between basic emotional reactions from music listening and emotional well-being in adolescence – as most related research on music in adolescence has prioritised the study of: - ealth risks - ocial issues - sychopathology