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Order of Authors:	Alberto Cabedo-Mas
	Lidón Moliner-Miravet
	Emilia Campayo-Muñoz
	Roberto Macián-González
	Cristina Arriaga-Sanz
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Impact of group music making on social development: A scoping review

Cabedo-Mas, Alberto[a*]; Moliner-Miravet, Lidón[a]; Campayo-Muñoz, Emilia[b]; Macián-González, Roberto[a]; Arriaga-Sanz, Cristina[c]

[a] University Jaume I of Castellón, Spain

[b] Complutense University of Madrid, Spain

c University of the Basque Country, Spain

*Corresponding author: Alberto Cabedo-Mas; Department of Education and Specific Didactics. University Jaume I of Castellón. Av. Vicent Sos Baynat, s/n; 12071, Castelló de la Plana, Spain. Email: cabedoa@uji.es

Abstract

The potential of music making to foster an individual's social development has been widely explored. The objective of this review is twofold: (1) to examine the characteristics of group music making initiatives aimed at promoting social skills, and (2) to analyse the impact that group music making initiatives have on people's social development. Twenty studies were reviewed. The aspects analysed included education level, participants' roles, participants' academic or social backgrounds, family involvement, and various organisational features such as number of participants,

duration of the programme, number of sessions per week and session length. Regarding the research methods used, the review explored the studies' research design, the variables analysed and the impact of the results. The results were generally positive: 79% of the qualitative studies revealed notable improvements in social skills. The average effect size for the quantitative studies ranged from large to very large. Despite these promising results, the effects of group music making initiatives are variable. It is necessary to ensure proper implementation of the initiatives or adequate conditions to foster people's social development.

Introduction

Music has often been used for purposes other than purely artistic or aesthetic ones and has provided a channel through which to foster individuals' and groups' social development. Some literature reviews highlight the benefits of active musical practice (Carrillo Aguilera et al., 2017; Hallam, 2010; Jaschke et al., 2013). Active musical practice occurs when people have an active engagement with music. This occurs when people intentionally devote time and attention to music making, engaging in activities such as singing, playing an instrument, dancing, composing, etc. Research has focused on the cognitive aspects that music can hone (Rickard et al., 2013), but music can also help emotional and social development, which involves skills such as social cohesion, teamwork, companionship, cooperation, sense of belonging, self-expression, self-

esteem, self-confidence, responsibility, sense of achievement and ability to make friends (Hewitt & Allan, 2013; Kokotsaki & Hallam, 2007; Schellenberg et al., 2015). Involvement in music making can have a positive impact on individuals' social development (Hargreaves & Lamont, 2017), especially when these experiences are based on group music practice. Most of the studies that have analysed the benefits of making music for developing people's social skills explored musical practices of people singing (Ros-Morente, et al., 2019), playing instruments (Veloso, 2016) and/or doing different activities related to learning music (Sanahuja et al., 2019) in small groups (Cross et al., 2012) or bigger ensembles, such as orchestras or choirs (Fairbanks, 2022). In this article, group music making initiatives are understood as active experiences of people engaging in group music making, not always framed in formal educational settings; they also include non-formal activities (Quigley & MacDonald, 2022) throughout the lifespan (Creech et al., 2013).

Engaging in music making is an excellent avenue to enhance people's social development (Jacobi, 2012). Social skills refer to interpersonal and affective aspects such as communication and being aware of oneself and others (Pérez et al., 2007), and include the abilities which allow one to understand others and to interact with them in a positive way (Giménez-Dasí & Quintanilla, 2009). An interconnection exists between the abilities that belong to social dimensions and the individual aspects of the person, since both sides interact with each other (Micó-Cebrián & Cava, 2014). In this study, social skill is considered as intrinsically related to emotion and, therefore, its development is acknowledged as a mechanism to acquire the skills necessary to attain and maintain well-being and success across the lifespan (Brackett et al., 2015). In this regard, and considering the complexity of defining the term well-being (Ryff, 1989), the

concept is understood here as the combination of feeling good and functioning effectively in one's individual and social life (Deci & Ryan, 2008).

Self-esteem and self-confidence frequently emerge as important elements in the social development. Some studies suggest that engaging with musical activities can raise self-esteem and self-confidence, which has positive repercussions for mental well-being (Zarobe & Bungay, 2017), while others show it plays an important role in preventing psycho-emotional problems among children and teenagers (Tripkovic et al., 2015). The cooperation involved in making music together can enhance self-esteem and enjoyment to a greater extent than competitive musical activities and attitudes do (Lowe, 2018). The music making process can also promote mental well-being by offering the opportunity to share experiences and emotions in a symbolic way in an atmosphere of mutual and social trust (Loock et al., 2003). Thus, it is not surprising that musical practices cater to children considered to be vulnerable or disadvantaged due to certain aspects of structural violence (Henderson et al., 2017) that may include poverty, difficult family situations or limited access to quality education and culture, and in other challenging social circumstances such as post-conflict situations (Bergh & Soloboda, 2010), forced displacement (Rodríguez-Sánchez et al., 2018) or refugee communities (Crawford, 2017; Marsh, 2012).

Nevertheless, for these benefits of group music practice to take effect, the experience must be pleasant for the individuals involved in the activity (Hallam, 2010). In fact, in the context of formal music education, other studies show that parents and teachers play a vital role in students' social and emotional development (Campayo-Muñoz & Cabedo-Mas, 2016, 2018) and motivation towards music and musical practices (Arriaga-Sanz & Madariaga-Orbea, 2014; Howe & Sloboda, 1991). As such, teachers and/or facilitators often emerge as a key factor in ensuring musical experiences are pleasant and positive

(Evans et al., 2013). In schools, motivation towards musical practices is largely determined by the experiences in the classroom. If they are positive, sharing music and musical practices contribute to positive coexistence in and beyond the music classroom (Cabedo-Mas & Díaz-Gómez, 2013). However, educational discourses and practices related to music need to be examined to assess their impact in developing social justice (Gould, 2007) or addressing social exclusion (Wright, 2010).

Rickard et al. (2013) highlighted the need to conduct empirical-based research that demonstrates the relationship between group music practice and the development of social skills. Since then, more research has been done on this matter (see, for example, Campayo-Muñoz & Cabedo-Mas, 2017; Schellenber et al., 2015; Váradi, 2022). However, it is important to consider the difficulty of measuring these kinds of skills in isolation, since they comprise a range of different dimensions, including socio-cultural aspects and/or genetic conditions (Campayo-Muñoz & Cabedo-Mas, 2017). Perhaps it is for this reason that mainly qualitative tools such as self-reports, questionnaires and interviews have been used to measure the impact on social development of participating in music initiatives (Hallam, 2010). Different studies have analysed the impact of music making on infant's social development (Buren et al., 2019; Cirelli et al., 2014; Kirschner & Tomasello, 2010; Siu & Cheung, 2016; Siu & Ho, 2021). However, most studies have been conducted in the context of primary and secondary education. There is therefore a need to review research involving studies across the lifespan. Research analysing the role of community have reported social gains, including personal, social, and other economic and educational changes (Newman et al., 2003).

Today, new trends in research are exploring the effects of joint musical practice in spaces other than formal and non-formal educational settings. Proposals that adopt pedagogies similar to *El Sistema*, among others, and that focus and reinforce the

psychosocial benefits of music over purely musical results are attracting research attention (see, for example, Rimmer [2018]). However, the literature reveals a lack of useful and accurate evaluation that analyses the impact of the effects community programmes have on people and communities (Dillon, 2006; Rodríguez-Sánchez & Cabedo-Mas, 2017). The difficulties of assessing and identifying the social gains of educational programmes involving active community music are both methodological and related to the management and control of evaluating creative processes. Research in this field still has much to explore in this regard.

Research aim

This article reviews previous studies centered on the impact of group music making initiatives on participants' social development, including formal and/or non-formal experiences of group and collaborative music making practices throughout the lifespan. The review has two main objectives: (1) to examine the characteristics of musical initiatives aimed at developing individuals' and groups' social skills, and (2) to analyse the impact of group music making initiatives on people's social development. We did not have a pre-established list of variables, although we expected they may include sense of belonging, pro-social behaviour, social cohesion, cooperation, motivation or psychosocial well-being, among others.

Recent studies assessing the effects of active music making on social development (Váradi, 2022) have shown positive influences on various social skills, although it is still unclear whether aspects such as length of the training, participation of families, the participants' context or the sensitivity of the measures used in the study have an influence on the results (Schellenberg et al., 2015). Consequently, the following aspects

were examined: the education level at which the studies were carried out; the number of participants; the role of the participants studied; in the case of research with young students, the participation of families; the inclusion of participants considered to be vulnerable, disadvantaged or at risk of social exclusion; the length of the initiative; the frequency and length of the sessions; the research design used in each study; and the main variables analysed in each study. In the case of quantitative studies, the effect sizes were calculated. For qualitative studies, their results were analysed to identify significant improvements reported in social skills.

Method

Search procedure

This review was based on a search of three of the most internationally recognised databases in the field of education: Web of Science (WoS), Scopus-Elsevier (SCOPUS) and Education Resources Information Center (ERIC).

The search was carried out between the months of January and March 2019. The systematic search of articles included the articles' titles, keywords or abstracts, using all possible combinations of the following keywords: *music, education, social skills, social inclusion, social justice, community music, multiculturalism, El Sistema*. The terms were combined with the Boolean operators 'AND' and 'OR' to refine the search and to connect words with similar meanings. The search was limited to papers published during the last 20 years, from 2001 to 2021, and focused exclusively on full papers written in either English or Spanish in the fields of education, psychology, arts, and humanities and social sciences.

Selection criteria and procedure

Having previously limited the results by publication date and field of study, all original papers in English and Spanish were deemed valid for consideration. Author 1 and Author 3 independently reviewed all the titles and abstracts retrieved from the search, according to specific predefined inclusion criteria. As Cooper et al. (2009) noted, the selection criteria should flow naturally, taking into account the objective of the research. The following criteria were applied:

Inclusion criteria:

- The study involved active musical practice

- It consisted of collective or group music making

- The participants reported their experiences to the researchers, who gathered spoken or written data

- The aim of the research included assessing variables related to people's social development.

Exclusion criteria

- Music therapy clinical studies

- Reviews of other studies

In the next stage of the search, the same two authors discussed the eligibility of each article and reached a consensus on which ones to include.

The initial search resulted in 323 studies. The automated search of the databases yielded 110 titles from WoS, 90 titles from SCOPUS and 123 titles from ERIC. After this search, we excluded articles appearing in more than one database and those which, after reading the title, had no clear direct relevance to the research aims, which yielded 43 studies. Following our review of the titles, abstracts and methods of the resulting 43 studies, we select 23 studies, which were further reduced by three studies once the full texts had been reviewed. The reasons for exclusion at this stage were as follows: (1) eight studies did not base their results on data collected from participants, but drew from historical data, documents from the programme or the researchers' own philosophical reflections; (2) five studies were reviews of previous research; (3) four studies did not analyse any personal and social variables related to the participants; (4) three studies researched music but not active group music making; and (5) three studies were music therapy interventions. Finally, 20 manuscripts were eligible for analysis in this review. Figure 1 presents a flow diagram with an analytical description of the article selection process.

[Insert Figure 1 here]

Codification of the studies

The studies were listed alphabetically in a table according to the surname of the first author (see Supplementary Material). The variables identified in each study include:

1. Education level of the participants, that is, whether they are early childhood education, primary education, secondary education or university and/or adult

students

2. Number of participants in the study

3. Participants studied, that is, whether the study includes only students, only
   teachers, students and teachers or adults

4. Family involvement in the study, that is, whether the students' families (when
   applicable) are involved or not

5. Inclusion of academically or socially at-risk participants, that is, whether the
   study includes these types of participants or not

6. Length of the programme in weeks

7. Frequency of sessions, that is, number of sessions per week

8. Length of the sessions in minutes

9. Study design, that is, whether it is a qualitative study, quantitative study or
   mixed method combining quantitative and qualitative data; qualitative studies
   that included a case study experimental design and quantitative descriptive with
   a pre-/post-test with control group or a multiple baseline were also indicated for
   each case

10. Variables analysed across the study

11. Main results of the study provided by the authors

12. Calculated Cohen's d for the quantitative studies (d)

Calculation of effect size

Cohen's d was used as a measure of effect size (Cohen, 1988). This parameter was
selected because it has been widely used in music education reviews in high impact
journals (Thaut et al., 2009; Whipple, 2004). Cohen's d was calculated as follows: for

cases in which the study included pre-test scores, post-test scores and the standard deviations of both the experimental and control groups, the formula described by Cohen (1992) was used. This was the case for Ritblatt et al. (2013), Osborne et al. (2016), and Yun and Kim (2013). For the remaining quantitative studies, that is, Hedayati et al. (2016), Ilari et al. (2016), Welch et al. (2014), which only included data from Fisher's exact test, the formula proposed by Thalheimer and Cook (2002) was used.

The values suggested by Sawilowsky (2009) were used to classify the magnitude of the effect size of each study as follows: a Cohen's d effect size of 0.2–0.5 was considered small to medium, 0.5–0.8 medium to large, 0.8–1.2 large to very large, and any value over 2, very large.

Results

The results of the analysis of the 20 studies reviewed, presented in response to the main research aims, are available as Supplementary Materials. The following sections explore the aspects analysed.

Participants

In this section, the educational level studied, the number of participants, the role of the participants studied, and the inclusion of families and academically or socially at-risk participants are analysed. In relation to the education level studied, the majority of the studies took place in primary education (with participants of approximately 6–12 years old), whereas the education levels of early childhood (0–6 years old), secondary school

(12−18 years old) or university were less represented (see Figure 2). Regarding the

participants' role, the vast majority of the studies were exclusively composed of

students, with only a few studies including teachers or an adult population (see Figure

3).

[Insert Figure 2 here]

[Insert Figure 3 here]

In the analysis of the number of participants per study, although the average sample size

was 377.5 (SD = 1383.61), samples in the majority of the studies were under 100

participants, and only one study included a significantly large number of participants (n

= 6,087). The distribution of the sample according to the number of participants is

shown in Figure 4.

[Insert Figure 4 here]

The next analyses examined family participation and the inclusion of academically or

social disadvantaged students in the studies. Of the studies in which family participation

was a possibility – those carried out in early childhood, primary or secondary education

– half did not include families or other community actors (f = 9; 50%), while the other

half did (f = 9; 50%). Moreover, 10 studies (50%) specifically included and adapted

their programmes for participants who were academically disadvantaged (f = 2; 10%) or

at risk of social exclusion (f = 8; 40%). No specific risk of exclusion was identified in

these 10 studies (50%).

Design and development of the programmes

Information about the length of the initiatives and the frequency and duration of the sessions was generally unclear. Many of the studies provided no information about the number of sessions held during the programme, or the frequency of the sessions. Information about programme duration was in any case diverse. Some studies analysed the effects of programmes lasting a few months or even weeks, while others studied the effects of programmes over several years. The frequency of the programme sessions was also variable and there was no discussion about the impact of periodicity in the results. Similar information was provided on the length of each session. Bearing in mind the variability of this aspect, the average length of the programme and the frequency and duration of the sessions is presented in Table 1.

[Insert Table 1 here]

Research method, variables, and findings

This section analyses information about the research conducted in the studies, addressing issues in relation to the research design, the variables studied and the results reported.

Qualitative research predominated in our analysis: of the 20 studies reviewed, 11 (55%) exclusively used qualitative data, and the prevailing research design was the case study. Among the quantitative studies, the most common design included pre-/post-test data collection with a control group. None of the studies used a randomised control trial design. Only two studies (Calderón et al., 2015; Hebert & Saether, 2014) used both

qualitative and quantitative methods to analyse data gathered with different qualitative and quantitative instruments. Table 2 shows the frequencies and percentages of the research designs selected for the studies.

[Insert Table 2 here]

The variables analysed in the study were categorised and grouped according to their thematic nature. Among the 20 studies, variables related to social inclusion (e.g. social inclusion itself, social cohesion or sense of belonging) were the most common, while 13 studies analysed results in relation to the potential of music education initiatives and practices to enhance cohesion and coexistence within a group. Attitude towards music was another commonly measured aspect, as was the improvement of self-perception (including self-esteem, self-concept or empowerment) as a consequence of participating in musical programmes. Only one of the studies assessed musical skills and performance. Table 3 contains information on the main categories of the variables studied, and the number of articles that reported results in these areas.

[Insert Table 3 here]

The analysis of the reports of the impact of the musical activities showed that only three (23.1%) of the 13 studies classified as qualitative or mixed method reported that no significant social skills were achieved. Conversely, in the other 10 studies the authors reported positive achievements in the variables studied, such as "improved relationship with their peers", "positive impact on social inclusion and learning engagement",

"success in terms of intercultural understanding" or "enhanced feeling of belonging", among others.

The effect sizes of the quantitative studies showed a majority of medium to large magnitude studies. The mean effect size was 0.87, with a standard deviation of 0.69 and a median effect size of 0.70. In addition, the Kolmogorov-Smirnov test (Lilliefors, 1967) was performed to analyse the homogeneity of the effect sizes; significant asymptotic differences were found in the distribution, so homogeneity was discarded.

Discussion

The overall results of this review support the idea that group music making initiatives have the potential to positively impact participants' social development. This is consistent with some reviews that analyse the effects of music on the improvement of social skills in different settings (Campayo-Muñoz & Cabedo-Mas, 2017; Carrillo Aguilera et al., 2017; Hallam, 2010). Both quantitative and qualitative data show that group music making initiatives may bring about, to a greater or lesser extent, an improvement in the social development of the participants in most of the cases analysed. This is a positive result, and has important implications for researchers and practitioners.

Most of the studies analysed focus on participants at early ages, mainly in primary education, revealing a need for further research with adult participants in which social variables are analysed. Although there are programmes assisting adult populations, such as the elderly (Creech, et al., 2013) or people in armed conflict (Bergh & Sloboda, 2010; Rodríguez-Sánchez & Cabedo-Mas, 2017), most of the research is conducted with children and young adults, and few studies consider non-targeted adults.

The literature reinforces the positive influence that family participation in children's educational activities has on academic development (Stewart, 2008) and achievement (Ilari et al., 2011), although in the students' engagement and in the connections between the educational setting and the community (Mapp, 2003), only half of the studies reviewed included families in the musical programme and in the research. Several factors may interfere in parents' involvement in community music programmes and initiatives, which are also strongly related to the home musical environment. These include factors such as the environment in which the initiative takes place, the structure parents may have, their expectations of the programme, their attitudes and their background. However, often teachers and/or facilitators may not be consistent in encouraging family involvement (Barnes et al., 2016). Bearing in mind the complexity of incorporating families and other community actors, the positive effects reported reveal the importance of considering these implications when designing programmes. Furthermore, group music initiatives are often designed and act as community music activities, as they intend to foster community participation and/or address issues and needs of the community in which the initiative is implemented. Therefore, in order to analyse the effects of the initiative, there is a need to include the voice of the community in the research. Almost all the studies analyse the effects of the activities on the participants, teachers and/or facilitators, and sometimes families; however, the analysis of the impact that group music making initiatives have within communities could potentially reveal further important information. In fact, consistent with Murray and Lamont (2012), the group (and hence the community) in this approach is frequently understood as the context in which the activity takes places and is therefore understudied. In studies on educational programmes or activities, the notion of community building mostly reinforces the idea of creating or strengthening positive

bonds between the group of participants and, sometimes, between different groups of participants. There is rarely information on the effects on or the perception of the whole community (Ansio et al., 2017).

One of the studies (Marsh & Dieckmann, 2017) analyses the effects of autonomous musical activities in students undertaken in the context of the educational programme but outside the formal instructional activities, such as using music during free time in the playground. This invites reflection on the need to examine the impact of musical activities beyond the formal and instructional setting and learn about the effects of music-related activities outside formal programmes.

The characteristics of the music making initiatives in which large effect sizes were found had the following elements in common. Almost all of these initiatives were run in primary education settings or with primary school children. Hence, researchers in the field may expect larger effect sizes in this educational stage when conducting similar studies. Moreover, almost all these programmes focused only on analysing the effects on the students and almost all of them included family involvement. As several authors in the field indicate (Coleman, 2019; Kotarba, 2022), family involvement may significantly impact academic and psychological factors in music education experiences. It should also be noted that the vast majority of them applied a quantitative design with a pre-/post-test with control group analysis. This type of quantitative design provides the most accurate magnitude of the effect size in any intervention (Miksza & Elpus, 2018). The fact that effect sizes reported in this research were heterogeneous is supported by previous research conducted by Zhang et al. (2020) and Váradi et al. (2022). This is due to the large number of academic, social, psychological, educational, contextual and organisational factors that may significantly impact the effect of the intervention. Hence, researchers in the field must be aware that the effectiveness of

music initiatives on social development may vary significantly depending on these various factors.

The diversity in the number of participants or the length of the initiative shows that positive results in social skills can be achieved, regardless of the scale of the initiative, whether few or many people attend, and regardless of the time available for it. However, considering the difficulties of sustaining some educational and community programmes, and also the challenges of performing long-term research in these contexts, the review shows that the average length of these initiatives is less than one year. The positive changes identified by studies of short initiatives contrast with research that supports the importance of long and sustained educational activities to find significant evidence of psychological and social benefits (Campayo-Muñoz & Cabedo-Mas, 2017). The review reveals a need for more longitudinal studies to evaluate the effects of initiatives across different periods of time. Furthermore, this review found no studies that analysed the residual impact of an initiative by assessing the effects on people's social development once it had finished.

In this regard, it is often a challenge to establish a clear connection between the initiative and the variables analysed as a cause and effect relationship. The extensive use of qualitative research in these studies reflects researchers' interest in the uniqueness of particular initiatives and effects, as their research designs allow and call for extra attention to specific temporal, social, political, pedagogical or aesthetic contexts (Bresler & Stake, 2017). However, the review shows the importance of performing further quantitative research in this field, both considering the scarcity of quantitative data in the literature, and the interesting results achieved by analysing the present quantitative data. Mixed methods, too, are a valuable way of triangulating data and offer rich perspectives.

Most of the articles reviewed analysed the role of group music making both in enhancing social cohesion and sense of belonging, and in developing personal skills aimed at enhancing social competences and improving well-being. This is indeed consistent with the idea that these initiatives are mainly designed not only to learn about music, but also to learn and grow through music making. However, although attitudes towards music were also often assessed, the quality of music learning or music performance was surprisingly under-evaluated within these studies. Satisfaction with the programmes was also rarely a matter of concern.

Overall, this review shows positive and promising results regarding the potential of group music making initiatives in the development of social skills. We therefore advocate for continuing to investigate this interesting field of research.

Limitations

Although the results of the review provide positive results which are potentially interesting for both researchers and practitioners, several limitations should be considered. First, 20 studies represent a considerable amount of research, but the sample is still limited. Neither the results nor the conclusions obtained in this investigation should be generalised. Second, all the publications included in this research were taken from indexed journals and written in English or Spanish. Several authors, such as Cooper et al. (2009), point out the importance of "grey literature", that is, studies from doctoral theses, conference presentations or other journals that are not indexed in databases. Not including such studies may therefore have influenced the results and conclusions obtained in this investigation. We acknowledge that this review focuses on a small set of studies and it does not cover the full body of research on the social impact

of group music making. Furthermore, both the selection of the studies and the application of inclusion and exclusion criteria may have been influenced by our own perspective. However, this review offers a snapshot of the research that readers will find in certain databases. The strict application of the review process we conducted means the search can be replicated or modified to explore other literature that may complement or add new results to the ones highlighted in this study. We therefore encourage other researchers to conduct further reviews that analyse the effects of group music making initiatives on participants' social development by using different terms and criteria to offer a broader panorama of how musical initiatives are shaped, how research is conducted in the field, and the personal and social results expected from undertaking such activities.

Conclusions

The studies analysed show that group music making initiatives have high potential to positively impact participants' social development. In this sense, this review contributes to previous reviews in the field by confirming the power of active music making in developing emotional skills (Campayo-Muñoz & Cabedo-Mas, 2017) and in fostering social development (Hallam, 2010). More specifically, this review concludes that music can be considered effective in improving a range of variables, such as social inclusion, social cohesion, sense of well-being or the development of social skills, as the most frequently analysed variables in the field. Group music making can generally be considered to have a high impact on these variables, studied in both qualitative and quantitative research. The great diversity in terms of number of participants, length of the initiatives and frequency and length of the sessions suggests that, regardless of these

variables, positive results can be obtained, although there is a need for further research on the sustainability of this impact and on the importance of the length and intensity of the initiatives for creating change. The limited number of studies involving participants in academically disadvantageous circumstances or at risk of social exclusion offers a good opportunity for researchers to delve further into this field of study, considering the positive results obtained in the research to date. In addition, families should be encouraged to become more involved in the initiatives to analyse not only their opinions and perceptions but also the extent to which their involvement influences the results obtained in these experiences. The review points to a need for more qualitative research that contributes to the existing literature, as well as research that finds a balance between the need to research the role of such initiatives, to learn through music, but also to explore the pedagogies and the musical outcomes acquired. At the same time, we identify the need for more quantitative research, which will be beneficial to confirm existing results, and to provide more data so a meta-analysis can be carried out on certain effects of music making in social development.

Although this review presents challenges unresolved to date, this field of research seems promising. We hope this review will provide researchers and practitioners with a platform for stimulating advances, as well as a rationale for immediate improvements and new research analysing this fascinating field of knowledge.

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Tables

Table 1

Length, frequency and duration of the sessions within the studies' programmes

	Avg.	SD
Length (weeks)	48.92	44.67
Frequency (number of sessions per week)	2.8	1.99
Duration of the session (minutes)	60	31.22

Table 2
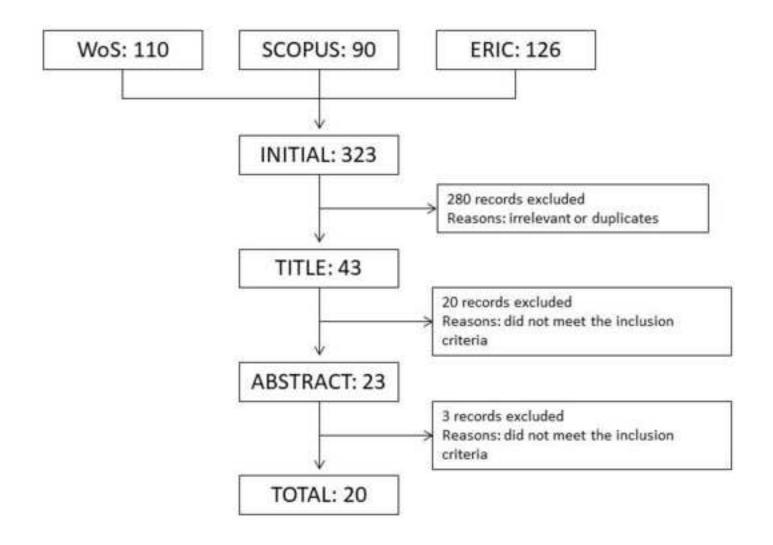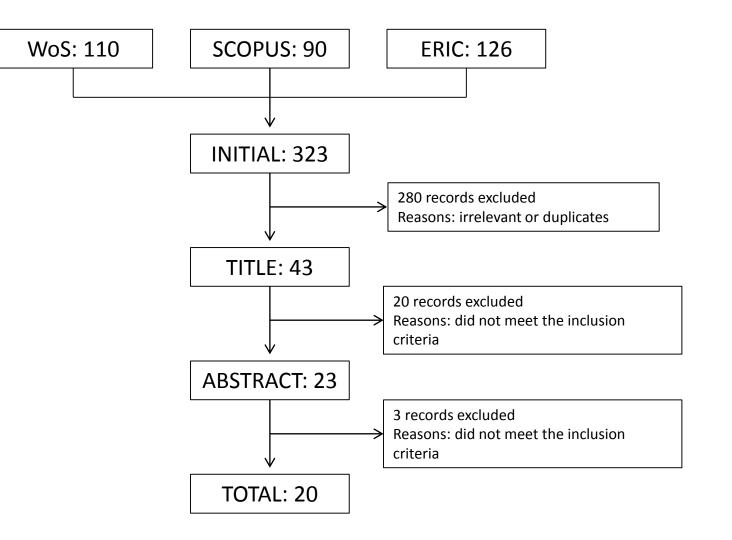
Study classification according to research design.

	f	%		f	%
Qualitative	11	55	Case study	5	25
Quantitative	7	35	PPCG	4	20
			Multiple baseline	2	10
			Descriptive	1	5
Mixed methods	2	10			

Table 3

Variables studied
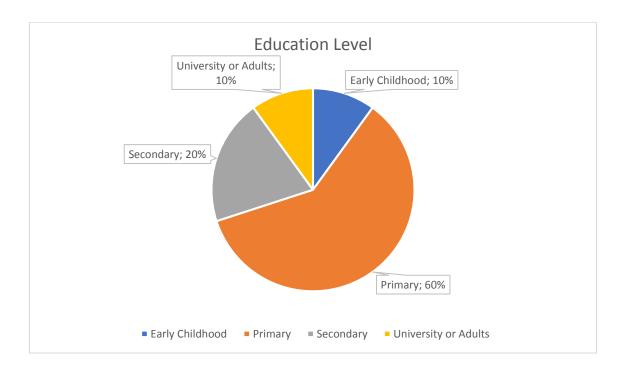
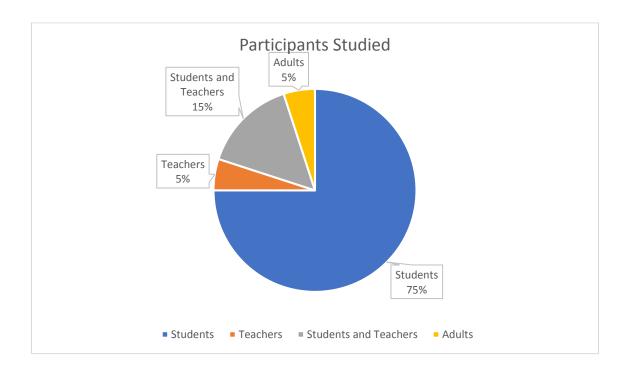| Variables	Number of studies
Social cohesion	13
Attitude towards music	7
Self-perception	6
Sense of well-being	4
Learning engagement	4
Development of social skills	3
Relationship with peers in the programme	3
Intercultural understanding	1
Musical skills and performance	1
Satisfaction with the programme	1

Figure 2

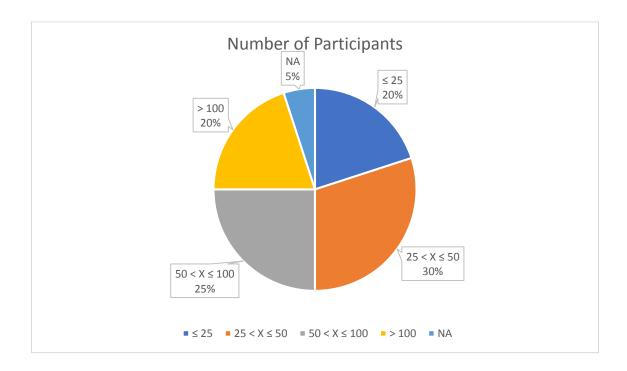*Distribution of the reviewed studies according to education level*

Figure 3

Distribution of the reviewed studies according to the role of the participants studied.

Figure 3

Figure 4

Distribution of the reviewed studies according to number of participants

Authors	Education Level	Number of Participants	Participant Studied	Family Involvement (Yes/No)	Inclusion of at-risk (Yes/No)	Length (in weeks)	Frequency of the Sessions (per week)	Length of the Session (in min)	Study Design	Variables	Main results	d
Calderón et al. (2015)	Secondary	234	Students	N	N	-	-	-	Quantitative Descriptive Study	Social cohesion, well-being	Music camps had positive effects on social cohesion and well-being, and adapted over the years to the educational requirements of the society	-
Crawford (2017)	Secondary	10	Students	N	Y	-	-	-	Qualitative Case Study	Sense of well-being, social inclusion, learning engagement	Music Education had a positive impact on refugee students, especially on social inclusion and learning engagement variables	-
D'Alexander and Ilari (2016)	Primary	2	Students	N	Y	8	3	60	Qualitative	Attitude towards music, social skills	The programme had a positive impact on the students' beliefs about musical learning and their relationships with their peers improved	-
Dobson (2016)	Primary	57	Students	N	N	-	-	-	Qualitative	Attitude towards music, learning engagement	In an *El Sistema*-based programme, human instincts and notions of social betterment clashed with archaic, dehumanising and elitist pedagogical tools	-
Gustavsson and Ehrlin (2018)	Early Childhood	-	Teachers	N	N	-	1	30	Qualitative	Social inclusion, attitudes towards music	Using an intercultural perspective through ME promoted assimilation rather than integration	-
Hebert and Saether (2014)	University or Adults	80	Adults	-	N	90	-	-	Mixed Method	Intercultural understanding, attitude towards diversity	The programme was largely successful in terms of advancing creative artistry, intercultural understanding and pedagogical competence	-
Hedayati et al. (2016)	Primary	30	Students	Y	N	10	4	-	Quantitative Pre-/Post-Test With Control Group	Social cohesion, well-being	At the personal level, ME could influence thoughts and emotions and the regulation of well-being; at the social level, music enhanced social cohesion	0.76

Study	Level	N	Participants						Study Type	Outcomes	Findings	ES
Hopkins et al. (2017)	Primary	22	Students and Teachers	Y	Y	12	4	75	Qualitative Case Study	Attitude towards music, discipline, perseverance	Notable attitudinal benefits were reported through an *El Sistema*-inspired programme	-
Ilari et al. (2016)	Primary	50	Students	Y	Y	54	7	1	Quantitative Multiple Baseline	Musical skills, sense of belonging	Children from the same ethnic and social background who did not participate in the programme showed a decline in singing and pitch discrimination skills	0.69
Kokotsaki and Hallam (2007)	University or Adults	78	Students	-	N	-	-	-	Qualitative	Music active engagement, self-esteem, satisfaction	Students felt important and useful, particularly when the groups were relatively small; a sense of communal achievement and mutual encouragement was developed	-
Marsh (2012)	Secondary	8	Students	N	Y	28	1	-	Qualitative	Interpersonal connections, social cohesion	The major outcome was a feeling of belonging to a global music community disseminated through various technological media	-
Marsh and Dieckmann (2017)	Primary	63	Students	Y	Y	-	-	-	Qualitative Case Study	Social cohesion, empowerment	Musical play in the playground created a space where refugee and newly arrived immigrant children found a place of belonging	-
Osborne et al. (2016)	Primary	92	Students	Y	Y	54	1	30	Quantitative Pre-/Post-Test With Control Group	Psychosocial well-being	Psychological outcomes for disadvantaged students may be improved through music learning opportunities	0.51
Rimmer (2018)	Primary	111	Students	N	N	-	-	-	Qualitative Case Study	Attitude towards music, self-esteem	Students' attitudes towards schooling and the school environment improved after the implementation of the programme	-
Ritblatt et al. (2013)	Early Childhood	102	Students	Y	N	54	-	-	Quantitative Pre-/Post-Test With Control Group	Social cooperation, social interaction, social independence	Using a music-based curriculum facilitated the learning of the social skills needed to transition to kindergarten	0.61

Sarazin (2017)	Primary	42	Students	N	Y	54	-	-	Mixed Method	Interdependence, social cohesion, friendship	The experience led students to frame negative interdependence not as an encouragement to act cohesively, but rather as an adult imposition	-
Steele (2017)	Primary	28	Students and Teachers	Y	N	98	4	120	Qualitative	Attitude towards music, social change, perseverance	*El Sistema* values were capable of impacting students' emotional outcomes, but not without a struggle, when allied with a public school partnership	-
Tsaklagkanou and Creech (2016)	Secondary	35	Students and Teachers	Y	Y	2	2	45	Qualitative	Social inclusion, relationship between peers, self-concept	Participants felt excited, nervous and proud during the performance, which had a high level of musical cohesiveness as a perceived result of the collective energy deriving from individual effort	-
Welch et al. (2014)	Primary	6087	Students	N	N	156	-	-	Quantitative Multiple Baseline	Self-concept, social inclusion	Results suggested that the higher the normalised singing development rating, the more positive the child's self-concept and sense of being socially included, irrespective of singing range, sex or ethnicity	0.38
Yun and Kim (2013)	Primary	43	Students	N	Y	16	1	60	Quantitative Pre-/Post-Test With Control Group	Social interaction, self-efficacy, social skills	Music activities enabled students to explain their thoughts and emotions better and their relationships with friends improved	2.27

Supplementary Material: Summary of findings

Title:

Impact of group music making on social development: A scoping review

Authors:

Cabedo-Mas, Alberto[a*]; Moliner-Miravet, Lidón[a]; Campayo-Muñoz, Emilia[b]; Macián-González, Roberto[a]; Arriaga-Sanz, Cristina[c]

[a] University Jaume I of Castellón, Spain

[b] Complutense University of Madrid, Spain

c University of the Basque Country, Spain

*Corresponding author: Alberto Cabedo-Mas; Department of Education and Specific Didactics. University Jaume I of Castellón. Av. Vicent Sos Baynat, s/n; 12071, Castelló de la Plana, Spain. Email: cabedoa@uji.es