Benefits beyond Music: Transferable Skills for Adult Life

Musically active adults on the value of their music education and experiences during childhood and teenage years to adult life beyond music

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Abstract

The topic of transferable skills from music has been dominated by experimental investigations into benefits for children's learning across the curriculum, and by arguments whether 'nonmusical outcomes' should be used to justify music's place in the curriculum. Qualitative research has focused to date on the views of music educators, school staff and pupils. In this project musically active adults were asked about their music education and experiences as children and teenagers and, with the benefit of hindsight, what they gained that proved of value in their adult lives outside music.

Findings from initial interviews formed the basis of an online questionnaire sent to music societies and choral groups in three areas of England. The results identified not only skills or meta-skills acquired through music and subsequently valued in other domains, but also source activities and environments associated with particular skill categories. Respondents compared the influence of music with that of sport and other activities: whether or not certain skills are unique to music, it was apparent that for some individuals music was the vital source of transferable skills. The greater variety of activities experienced by pupils, the more opportunity they have to find their route to acquiring such skills; without music in the school curriculum some would be denied such opportunities.

Factors that can influence the effective acquisition and transfer of skills and the implications for music education, inside school and outside it, are discussed. Ensuring balanced content in both instrumental and class teaching and encouraging pupils to reflect on and connect up what they learn across their different musical activities is likely to facilitate skill acquisition and transfer. More broadly, the ability to transfer knowledge and skills across domains is seen as fundamental to the adaptability required for life in the 21st century.

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1. Introduction and research context

1.1 Getting started

In June 2010 I received an email with the following invitation:

Don't miss your chance to join us next week at The Conference Board webcast:

Innovation Begins with Creative Employees
Arts Education and the Innovative Workforce

According to The Conference Board's study, *Ready to Work*, U.S. employers rate creativity and innovation among the top five skills that will increase in importance over the next five years, and rank it among the top challenges facing CEOs.

In *Ready to Innovate*, a study conducted by The Conference Board, Americans for the Arts, and the American Association of School Administrators, business leaders identified "arts-related study in college" and "self-employed work" as the top two indicators of creativity, while school superintendents rank the arts degree study as the highest indicator of creativity....

...How can employers capitalize on these trends? What partnerships, programs and practices can help support skill development in creativity and innovation in the workplace? This webcast will focus on how companies are getting involved in arts education as a way to support development of necessary skills for the 21st Century workforce.

Figure 1.1: Extract from an advertisement for a Conference Board[1] webcast.

Not particularly remarkable, given my responsibilities for Learning and Development in a global professional services firm; yet it prompted me to reflect on what sorts of arts-related training and experience might be considered useful to an employer and to what extent such skills and competences might (a) be distinctive and not found in graduates of other disciplines but uniquely within the arts, and (b) transferred effectively to the workplace. As a recruiter I would expect any graduate to offer a range of generic skills relevant to the workplace, in addition to their specialist subject knowledge (which may be of only secondary interest). I would look for qualities relating to self-management and personal effectiveness (such as interpersonal skills, the ability to work in teams, take responsibility, communicate effectively and so on) and yes, for signs of creativity, but I had never considered this to be the exclusive preserve of creative arts graduates.

Pursuing this train of thought, I wondered whether the same set of 'generic graduate attributes' (Brown 2009) might be expected from a 'cellist or a graphic artist, coming from a conservatoire or academy rather than a university. At one time (rightly or wrongly) such establishments were viewed as providing vocational (i.e. domain-specific) training, in contrast to a university education designed to prepare graduates for a variety of future careers (Peters 1966); such distinctions have become less clear over recent years, but Gaunt and Papageorgi observed that 'conservatoire students in particular tend not to be adept at transferring their high-level skills to other contexts' (Gaunt and Papageorgi 2010: 268).

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[1] The Conference Board is based in New York and describes itself as a global, independent business membership and research association working in the public interest, with a unique mission: to provide the world's leading organizations with the practical knowledge they need to improve their performance and better serve society (http://www.conference-board.org).

Such concerns are reflected in the current debates around employability and the increasing focus right across Higher Education on equipping students with skills for the workplace, whether they pursue a career in their area of study or take up work in a less related field (Brown 2007). This has resulted in the specialist arts establishments doing two things: increasing the focus on skills to help their graduates succeed within arts-related fields (e.g. how to set up and run a small business, such as an independent studio) and at the same time vigorously promoting the relevance of their particular training to careers outside their artistic discipline, claiming a high level of transferability but, so far, providing little in the way of hard evidence.

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9 Parallels of Musicianship and Business
(The keys to success in business and life)

- Confidence and self-esteem (Stepping up to the mic)
- Collaboration and teamwork (I'm in the band)
- Leadership (Conducting your symphony of employees)
- Salesmanship and branding (Give the fans what they want)
- Creativity and innovation (Improvising from the charts)
- Risk acceptance (Let's just "jam")
- Discipline and fundamentals (Learning the "scales" of your profession)
- Individuality (Make you own kind of music)
- Passion (Play it with feeling)

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Figure 1.2: '9 Parallels of Musicianship and Business' (Cortello 2009: 33)

I hoped to find tangible examples in a book I was asked to review, entitled *Everything we needed to know about business we learned playing music; from the Band Room to the Boardroom, Business Leaders Advocating Music Education as an Instrument of Their Success* (Cortello 2009), but I was to be disappointed. While the enthusiastic advocacy behind this collection of anecdotal accounts might inspire the reader, its potential research value was diminished by the absence of any rigorous analysis to support the '9 Parallels of Musicianship and Business' (Figure 1.2), which even the author described as a 'laundry list' of benefits.

These experiences prompted me to consider a research project to address the questions taking shape in my mind:

    a. What sorts of skills and attributes are acquired through musical study and activity in childhood and teenage years that prove useful in adult life outside or beyond music?

    b. How are they acquired? Are they inevitable consequences of music education? Do all music students acquire them?

    c. What factors influence their acquisition? How are they transferred to other domains? Is it through a conscious or explicit process? Could this process be made more effective?

1.2 Transferable skills....or 'nonmusical outcomes'?

Various terms are found in the literature, including 'generic skills', 'basic skills', 'life skills' and 'core skills'. All these refer to attributes that are not considered specific to a particular domain, but have a wider application (see Bridges 1993 for a fuller discussion). In the educational world, 'core skills' can often refer to just basic literacy and numeracy and 'life skills' may focus on managing personal finances and job applications, while lists such as SCANS[2] Workplace Know-How (SCANS 1993: 6)) confine themselves to skills considered requisite for the workplace. So for the purposes of my investigation I prefer to use the more general term 'transferable skills' to describe skills and attributes which may be acquired through one domain of activity but can prove useful and effective in another, and which may be relevant not just to the workplace but also in domestic, leisure and community settings.

So what sorts of transferable skills can be acquired through music? It was noted earlier that higher education establishments such as conservatoires are stressing the transferability of skills their graduates offer, as well as making efforts to provide them with complementary skills from outside their own discipline, such as entrepreneurship. A 2008 NAMHE paper observed:

> ...there is a growing need to highlight the non-subject-specific skills or, more specifically, the *transferable* skills that are acquired in a music degree and are necessary for post-university employment. (Dockwray and Moore 2008: 1)

Analytical skills	Entrepreneurism	Professional ethics
Application of existing knowledge	Etiquette and conventions	Research skills
Articulate expression	Evaluation skills	Reviewing progress
Awareness of cultural differences	Independent learning	Self-awareness
Career Planning	IT skills	Self-expression
Confidence	Lateral thinking	Self-management
Communication: Written and Oral	Leadership	Self-motivation
Creativity	Listening skills	Study skills
Critical thinking	Negotiation	Team work
Decision making	Numeracy	Time management and prioritisation
Design and visual awareness	Organisation and planning	
Engagement with the unfamiliar	Problem solving	

Table 1.1: List of transferable skills from music degree courses (Dockwray and Moore 2008: 4)

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[2] **Secretary's Commission on Achieving Necessary Skills (SCANS)** In 1990, the US Secretary of Labor appointed a commission to determine the skills young people need to succeed in the world of work. Although the commission completed its work in 1992, its findings and recommendations continue to be a valuable source of information for individuals and organizations involved in education and workforce development (http://wdr.doleta.gov/SCANS/).

The list of skills they compiled from responses to their questionnaire (Table 1.1) is impressive, despite the low response rate (10%). However, these are the views of NAMHE representatives and others in music education and so might be considered aspirations rather than evidenced reality. Also the list is aggregated from many different music courses, so particular items would not necessarily hold true for any individual student.

Not so long ago the very suggestion of transferable skills from music could trigger a strong reaction and still can raise hackles today. This is not the place for an extended discussion about the aims of music education, but it is worth a brief look at the debate because of its implications for research into transferable skills. The opening paragraph of an article dating back to 1978 describes a situation that might sound all too familiar in today's financial climate:

> In the face of the severe financial problems besetting many school districts, the role of education in the arts has come under increasingly close scrutiny as school administrators have sought to balance their budgets. Because many people are able to dismiss music and the other arts as educational frills, they find them the logical targets for reductions when school finances are strained. In situations such as these, the effect on music education is crippling. Such actions make it incumbent upon the profession to provide a thorough and convincing justification for the place of music and, by extension, all arts education in the school curriculum. (Wolff 1978: 74)

While 'the idea that music might have collateral benefits was welcomed with open arms as a way of saving or reviving programmes' (Schellenberg 2006: 111), there were fears that such considerations would risk losing sight of the 'true purpose' of music education and somehow diminish its art. For a while 'rhetoric and propaganda' threatened to replace rational discussion (Plummeridge 2001: 22) and even to stifle research into nonmusical outcomes. Wolff had pointed out that whatever the motivation for music education 'it is important for music educators to examine these ancillary effects for the information they may yield about the result of the teaching process and for the justification they may provide for maintaining strong arts programs' (1978: 74) and gradually a more balanced approach emerged. As Mark suggested, albeit with a tinge of resignation in his voice:

> Perhaps it would be helpful to the contemporary music education profession to recognize that even the philosophy of aesthetic education can have a nonmusical outcome....Beyond the benefit of good citizenship, it is likely that music will continue to be justified on the basis of nonmusical outcomes, just as it has been throughout Western history. (Mark 2002: 1051)

However, it is important not to gloss over some of the more pragmatic concerns, such as those expressed as far back as 1965:

> While reliance on statements of nonmusical value of music may well have convinced some reluctant administrator to more fully support the music program,

those values cannot stand close scrutiny, because they are not unique to music. In fact, many other areas of the curriculum are in a position to make a more powerful contribution to these values than music.   (Leonhard 1965: 42)

Although clearly sceptical about nonmusical outcomes, Leonhard was not making a purely philosophical objection but pointing to the danger of over-reliance on nonmusical outcomes as the sole justification for music in the curriculum: if such arguments were undermined music could be even more vulnerable. More recently Winner and Hetland (2000), while echoing his concerns that music's place in the curriculum should be justified by its intrinsic value and musical outcomes, accepted the possibility of transferable skills from music and urged further research:

> While we should never justify the arts on non-arts outcomes, we believe there is value to the search for such links. Researchers should continue to look for, try out, and specify whether - and if so, how – the arts can serve as vehicles for transfer. Educators could then exploit this relationship. (2000: 6)

My research project therefore aimed to consider: the evidence for nonmusical outcomes; whether any might be considered unique to music or acquired equally or better through other activities; and to what extent they might depend on music, in the school curriculum or outside it, for acquisition / transfer to other domains.

1.3 Looking for evidence from previous research

Among the published research on the nonmusical outcomes, two studies have been widely quoted and provide a useful core around which to review the literature and assess the implications for this research project. The first is a substantial primary research programme conducted by the National Foundation for Educational Research: its findings were published in *Arts education in secondary schools: Effects and effectiveness* (Harland, Kinder, Lord, Stott, Schagen, and Haynes 2000). In this study researchers interviewed staff and pupils in five case study schools over a period of three years (1997 – 1999). In addition, a survey of Year 11 pupils across 22 schools, resulted in 2269 completed questionnaires; its primary focus was on the possible impact of arts study and engagement on general academic achievement at GCSE. Effects on pupils were categorised under seven types of outcome (Table 1.2):

Type of outcome	Description
Intrinsic and immediate effects: forms of enjoyment and therapy	What are for many pupils the most immediate effects of engaging in the arts, namely, a sense of enjoyment, excitement, fulfilment, stress reduction and therapeutic value
Artform knowledge and skills	Direct effects on the artistic development of the learner in terms of enhanced knowledge, understanding, appreciation and skills in different artforms and, perhaps, in the arts as a whole.
Knowledge in the social and cultural domains	The outcomes relating to the broadening of pupil perspectives on cultural traditions and diversity, environmental contexts and surroundings, and social and moral issues.

Creativity and thinking skills	The effects on the development of cognitive processes, such as creativity, the imagination, thinking skills and problem-solving strategies.
Communication and expressive skills	Outcomes associated with the enrichments of interactive communication skills, language competency, interpretative and active listening skills, and the capacity to use expressive skills to make statements about themselves and their worlds.
Personal and social development	Outcomes relating to the growth in intra- and inter-personal awareness and skills, including the sense of self and identity, self-esteem, self-confidence, teamwork skills, awareness of others, and rounded and balanced personalities.
Extrinsic transfer effects	Evidence for the claims that the effects of arts-related courses transfer to different contexts, in particular that they have a beneficial impact on learning and attainment in other areas of the curriculum, but also that they transfer to the world of work and influence young people's engagement in cultural activities in their leisure time.

Table 1.2: The effects of arts education (adapted from Harland et al 2000)

The other is a secondary research study, *The Power of Music* (Hallam 2001), commissioned by the Performing Rights Society to review research into the 'other' values of music. A wide range of the effects of listening to or making music were reviewed, including the emotional, neurological and physiological responses to music; their implications for regulating mood and behaviour; ways in which it can be used in therapeutic settings and to enhance the quality of lives for people with specific difficulties or impairments, as well as for commercial and leisure purposes. This report was updated to reflect more recent research and published as *The power of music: its impact on the intellectual, social and personal development of children and young people* (Hallam 2010a). It key findings are summarised in Table 1.3.

Type of outcome	Findings
Effects on the brain	Extensive engagement with music induces cortical re-organisation producing functional changes in how the brain processes information. Changes are specific to particular musical learning undertaken. The ways in which we learn are also reflected in particular brain activities. As individuals engage with different musical activities over long periods of time permanent changes occur in the brain.
Perceptual and language skills	Evidence suggests that engagement with music plays a major role in developing perceptual processing systems which facilitate the encoding and identification of speech sounds and patterns: the earlier the exposure to active music participation and the greater the length of participation, the greater the impact. Transfer of these skills is automatic and contributes not only to language development but to literacy.
Literacy	There seem to be benefits for engaging in musical activities in relation to reading...but our understanding of these processes is currently limited. Use of music, in particular rhythmic techniques may help children with reading difficulties and music instruction may also increase verbal memory. Less attention has been paid to musical engagement's influence on writing but music-enhanced instruction seemed to produce significant gains in writing skills.
Numeracy	Overall the evidence suggests that active engagement with music can improve mathematical performance (in particular spatial reasoning), but the nature of this relationship, the kinds of musical training needed to realize the effect, and the length of time required are not currently understood. Transfer is only likely to occur when the skills required are 'near'.

Intellectual development	It would appear that active engagement with making music can have an impact on intellectual development. What requires further research is the specific types of musical participation which develop skills which transfer automatically to other areas and what are common features of these skills.
General attainment	Most of the research examining the relationship between general achievement and active engagement with music has been based on correlations. Participating in musical activities may be related to other factors with promote academic attainment, such as supportive home environment, literacy and numeracy skills, and motivational considerations, such as self-perceptions of ability, self efficacy and aspirations.
Creativity	Major national reports on the arts have emphasised their importance in developing a range of transferable skills including those related to creativity and critical thinking [but] researchers have paid less attention to the impact of music on creativity than other types of learning. The development of creative skills is likely to be particularly dependent on the type of musical engagement. To enhance creativity music lessons may need to be based on creative activities. This is an area where further research is required.
Social and personal development	While it is clear from the research...that music can have very positive effects on personal and social development...the research has largely focused on those currently participating in active music making, not taking account of those who have not found it an enjoyable and rewarding experience
Physical development, health and well-being	Some work has focused on physical development of children, some on more general issues concerned with well-being. There has recently been a surge of interest in the specific benefits of singing to health and well-being: almost all this research has been carried out with adults...and concluded that there are a range of health and well-being benefits from participating in a choir, and music making has also been shown to contribute to perceived good health, quality of life and mental well-being.

Table 1.3 Benefits from active engagement with music (adapted from Hallam 2010a)

1.3.1 Nonmusical outcomes

While these two reports have been influential, it is important to review their findings alongside some more specific studies that focus on particular aspects of nonmusical outcome.

Music's effect on the brain and personality

Differences have been found in brain structure not just between musicians and non-musicians, but between professionals and amateurs and between players of different instruments (such as between keyboard and string players), appearing to reflect the different types of activity involved as well as the intensity of practice and age of starting instrumental study (Schlaug, Norton, Overy and Winner 2005). It is not yet clear whether such changes may relate to pre-existing differences or the instrumental study, or to what extent learning before the age of seven results in more significant changes due to greater brain plasticity during the early years; findings from longitudinal studies and advances in neuroscience are expected to provide further information.

Kemp (1996) investigated personality among musicians and found, among a general pattern for the musical individual, specific patterns for the composer, conductor, performer and teacher and differences even between the players of different instruments (p. ix). However he could not answer the question: 'Do people become musicians because they have

the appropriate temperament, or does the process of developing the requisite skills also stimulate personality development?' as 'cause and effect are often difficult to disentangle empirically' (p. viii).

The relevance of these for my study was: if those with a strong musical background believed they thought or behaved differently from others, it might have both positive and negative effects on their expectations in terms of employment and wider social interactions.

Cognitive and academic benefits
It is clear from Wolff's article that investigations into nonmusical outcomes at the time focused on the short-term cognitive benefits – specifically how music might improve children's learning in other areas of the curriculum. In1978 she noted that while most of the research 'produced positive results, the conclusions drawn generally remain unconvincing' largely due to 'inadequacies in experimental design and equivocal descriptions of the experiments themselves' (1978: 86); the possibility that such unreliable findings might be used to underpin advocacy only adds weight to the reservations expressed by Leonhard. Nearly fifty years on there is still a danger in the tendency to take very specific research findings in areas such as visual-spatial reasoning (Rauscher 2009) or auditory function (Skoe and Kraus 2012) and generalise them to claim 'improved IQ' or 'lifelong benefits' never asserted by the original research team.

Harland and his team reported that although music showed a positive correlation with academic performance, this could not be shown to be causal and overall their study found no statistical evidence to support the proposition that studying or engaging in the arts improved academic achievement across the curriculum; the only support for this came from teachers in the case study schools. In her 2001 report Hallam concluded:

> From our current level of knowledge it is not possible to draw firm conclusions about the effects of listening to or active involvement in music making on other intellectual skills. The jury remains out.   (Hallam 2001: 16)

Not only does this tally with the earlier conclusions of Wolff, but, despite a variety of studies in recent years (e.g. Schellenberg 2006; Rauscher 2009), it still seems to be the position: while correlations are strong, there is little to show causality beyond areas of spatial-temporal reasoning. The continuing belief that music has a positive effect on academic achievement may be due to what happens in those schools which give the arts a prominent role and to the use of the arts as an entry point for less academically-minded students to other curricular subjects (Winner and Hetland 2000).

Although benefits across the school curriculum were not the focus of my enquiry, evidence of any longer term cognitive gains in areas with potential transferable value, such as creativity and critical thinking, were certainly of interest.

Social and personal development

Research into the benefits for social and personal development tends to be based on self-report or the perceptions of third parties (such as teachers) and has attracted less public attention than the impact on intellectual development. This may be because, although the focus on cognitive benefits is comparatively recent, the experimental approach and use of techniques such as neural imaging give it a more 'scientific' appearance.

In terms of benefits to the individual, findings on the 'demonstrable positive effects of involvement with music on children's personal and social development' (Hallam 2001: 16) include: sense of achievement, self-esteem, confidence, persistence, self-discipline and self-expression resulting from playing an instrument; friendships, social networks, sense of belonging, teamwork and cooperation, responsibility and commitment, working together to meet group goals, concentration and an outlet for relaxation from participating in musical groups; development of trust, respect and skills of negotiation and compromise from working in small groups. Some of the evidence is based on the views of instrumental teachers (Hallam and Prince 2000) and some drawn from parents of US band participants, backed up by in the latter case by the band students too (Brown 1982, 1985).

Harland et al. (2000) found effects relating to self-confidence, social skills and a growing awareness and empathy of others (p. 178), but these came from an unrepresentative sample of pupils from the case study schools and the report warned against 'any complacent belief that personal and social development through arts education can be guaranteed'; large numbers of pupils in the wider survey perceived no such effects (p. 177). While teachers seemed to put most emphasis on personal and social skills being developed through the arts, pupils perceived most of their learning to be about artform-based technical skills and knowledge (p. 259) although they felt they gained confidence from performance-based activities in the arts. Reported increases in self-esteem and sense of identity depended on pupils feeling special, usually due to superior instrumental ability rather than anything gained from the music curriculum. Further along the educational path, music students in Higher Education reported that active involvement in music helped them to develop life skills such as discipline and concentration, and provided relaxation during demanding study periods (Kokotsaki and Hallam 2007).

Mark's collection of source readings (Mark 2008) shows that throughout history a principal aim of music education has been character formation - equipping the student to

play a proper adult role in society, as a rounded, moral individual and a fully-functioning member of the community. Harland et al. (2000) looked at wider school and local community effects of arts education; these included the impact on the school's ethos and image and the involvement of parents and others in arts activities at school (drawn chiefly from the senior school management interviews rather than pupils), but they did not consider any longer term implications for society of teaching the arts in school.

Music is being used as a vehicle for social intervention, but outside the school context. A study into the social impact of community music centres in England and Portugal, focusing on the development of trust and social bonding, found that members significantly developed musical and transferable social skills through their participation (Blandford and Duarte 2004). Recently considerable attention has been given to initiatives inspired by Venezuela's *El Sistema* programme[3], with similar projects in the United Kingdom targeting areas of social deprivation, under the banners of *Big Noise*[4](Sistema Scotland) and *In Harmony*[5] (Sistema England).

So, while the debate about transferable skills from music concentrated on its role in the curriculum, it is apparent from the research reported above that many of the benefits observed related to active music making (such as learning an instrument or participating in a group musical activities) rather than classroom music.

1.3.2 Not just music in the curriculum – and not just music?

Music education in the United Kingdom comprises not only what may be taught and learnt within the school curriculum; music is also studied and actively experienced in a range of settings, including the home, the local community, private instrumental or vocal lessons, informal music-making with family and friends and now via the Internet. Straddling the in-school / out-of-school division are the school based extra-curricular activities and 'private' instrumental tuition received during the school day. This not only means that 'the relationship between music-making in and out of school is becoming increasingly complex' (Lamont, Hargreaves, Marshall and Tarrant 2003: 231) but also gives music, along with other arts and sports, a somewhat different status as a leisure pursuit as well as a curricular

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[3] The National System of Youth and Children's Orchestras and Choirs of Venezuela, commonly known as **El Sistema**, aims to systematise music education and promote the collective practice of music through symphony orchestras and choruses to help children and young people in achieving their full potential and acquiring values that favour their growth and have a positive impact on their lives in society (http://www.ihse.co.uk).

[4] **Big Noise** is an orchestra programme based on the methods of Venezuela's *El Sistema* movement. It aims to use music making to foster confidence, teamwork, pride and aspiration in the children taking part – and across the wider community. Big Noise is the name given to the orchestras; **Sistema Scotland** is the name of the national charity behind them (http://www.makeabignoise.org.uk).

[5] **In Harmony** is a social and music education programme inspired by Venezuela's *El Sistema*, adapted to an English context and piloted in Liverpool, London and Norwich. In Harmony uses music to bring positive change to the lives of children in disadvantaged areas of England, delivering benefits across the wider community (http://www.ihse.co.uk).

subject. Pitts found that 'the role of extra-curricular music appears to be particularly crucial in shaping attitudes to music that are carried into later life' (2008:14). Moreover, she later reports that her research 'brings into question the centrality of formal institutional education in shaping the musical lives of the majority of the population' (2012: 20). Might this prove equally true for the nonmusical outcomes?

If many of the benefits are linked to music outside the curriculum, are they also available through other such activities and hobbies? Out-of-school activities, such as Scouts and Guides, also claim improvements in personal 'key skills', including social skills, teamwork ability, leadership ability and confidence, with relevance to both school and employment (Scouting Association website www.scouts.org.uk). A study examining the impact of extracurricular activities in general found that:

> Consistent extracurricular activity participation was associated with high educational status at young adulthood, ... [which] was in turn linked to reciprocal positive changes between extracurricular activity participation and interpersonal competence, and to educational aspirations across adolescence.
> (Mahoney, Cairns and Farmer 2003: 409)

A relationship between greater extracurricular arts involvement and higher academic outcomes was found in a study of At Risk Youth (Catterall, Dumais and Hampden-Thompson 2012) but the direction of causality is unclear.

Sport has long been regarded as an effective vehicle for fostering positive youth development, whether in terms of character-building on the playing fields of Eton, educating the body, will and mind in pursuit of the Olympic ideals or setting up sports clubs to get teenagers off the streets and provide them with some basic 'life skills'. These initiatives have been set mainly outside the school context, but there is a growing interest in how such skills can be developed through sport within the educational context (Petitpas, Van Raalte, Cornelius and Presbrey 2004; Goudas, Dermitzaki, Leondari and Danish 2006). However, the question remains: if many such life skills can be acquired through all these activities outside school, what if any such outcomes are unique to music and what part is played in their acquisition and transfer by music's role in the curriculum?

1.3.3 Acquisition and transfer of skills

Harland et al. (2000) found that while the outcome categories of 'Intrinsic and immediate effects' and 'Artform knowledge and skills' were important for continued motivation to participate, they were largely domain-specific. The other categories of outcome were more relevant to transferable skills and in particular 'Extrinsic transfer', which reviewed the transferability of acquired skills to (a) other areas of curriculum and / or (b) the world of

work and leisure outside school. Most of the positive effects reported were limited to the domain of the artform concerned. The pupils provided little to back up the views of their teachers, apart from some motivational and behavioural effects that transferred from their arts activities; otherwise comments were confined to limited cross-curricular transfer of domain-specific knowledge and skills, such as drawing well. The report adds:

> It was not evident to what extent, if any, teachers explicitly addressed and fostered these cross-curriculum connections with pupils, or whether pupils were left to accomplish these transfers themselves.   (Harland et al. 2000: 213)

It seems that pupils found the idea of transferring skills beyond the domain or the school context quite difficult to consider and outside their experience. Students at Luton University seemed to have similar problems in responding to questions about transfer of skills (Burke, Jones and Doherty 2005). So how automatic is any transfer and does the way the skills are acquired influence their transferability?

  'Near' transfer (to closely related contexts and performances) may be more readily achieved than 'far' transfer (to different contexts and performances) and involve two rather different mechanisms:

> Reflexive or **low road transfer** involves the triggering of well-practiced routines by stimulus conditions similar to those in the learning context. Mindful or **high road transfer** involves deliberate effortful abstraction and a search for connections.   (Perkins and Salomon 1992: 2)

Furthermore, 'conventional educational practices often fail to establish the conditions either for reflexive or mindful transfer' although it is possible to design education with transfer in mind. So while some opportunities for transfer may be obvious, others are far from automatic and require a conscious process of 'mindful abstraction' to identify the underlying skill or principle to allow its successful application to a new context (Perkins and Salomon 1992: 8).

  The NAMHE paper recognised that 'because transferable skills are still rarely explicitly taught or assessed, they tend to appear as embedded outcomes...It is assumed that the student is in possession of the skill' (Dockwray and Moore 2008: 6); furthermore, 'transferability depends to a large extent on practising skills in a wide range of different contexts' (Drummond, Nixon and Wiltshire 1998:20). Hallam suggested that the development of certain skills depends on the types of activities undertaken and that transferability from music to another context requires some similarity in the processes involved (2001: 5) and she later called for further research on the 'specific types of musical participation which develop skills that transfer automatically to other areas and what are the common features of these skills' (2010a: 276). These remarks are made in the context of transfer across the

academic curriculum, but potential areas of less automatic transfer require no less investigation, in terms of which types of musical activity give rise to their development. As Hallam commented elsewhere:

> We need to understand what impact different kinds of engagement with music can have on subjective well-being, self-esteem, behaviour, social skills and a range of transferable skills, for instance, concentration and self-discipline.
>
> (Hallam, 2010b:809)

A further point of interest is whether the level of musical expertise has any bearing on the successful acquisition and transfer of skills. In a comparison of how music students and non-music students in Higher Education perceived the benefits of their musical activity, non-music students 'demonstrated a greater preoccupation with the impact of group music-making on self and personal development' (Kokotsaki and Hallam 2011: 166). This suggests that music participation brings benefits to both specialists and non-specialists, but in different ways. This may have less to do with different levels of expertise and more with the individual's interest and focus.

Whether an individual goes on to become a specialist musician or not, transferable skills 'are dependent, among other things, on the opportunities for students to acquire and develop the skills' (Dockwray and Moore 2008: 7). If particular activities are important for their acquisition, do all children get the opportunity to experience them? Even if the opportunities are available, will all children see their relevance and want to experience them?

Motivation and enjoyment
'Children will be inclined to continue learning only if they feel competent and believe that their learning is useful or important to what they plan to do in the future' (Austin, Renwick and McPherson 2006: 232), but Harland et al (2000) found that 'Too often, only the most committed of pupils registered any effects [of arts education], especially in music' (p. 567). Music actually showed a more limited range of outcomes compared to art and drama and 'pupil enjoyment, relevance, skill development, creativity and expressive dimensions were often absent' (p 568). So while pupils did not perceive the link to the wider world of work, and therefore were not pursuing music for 'secondary' reasons, in many cases its intrinsic value was not motivating them either. This would imply that any beneficial transfer effects of music at school might be limited to a relatively small number of pupils.

Outcomes depend on 'the quality of teaching, the extent to which individuals experience success, whether engaging with a particular type of music can be integrated with existing self-perceptions, and whether overall it is a positive experience': it has to be enjoyable and rewarding to produce the necessary motivation (Hallam 2010: 280). However, there have been serious concerns expressed about the lack of interest in curricular music, particularly

amongst secondary school pupils and the low uptake of Music GCSE (Bray 2000). The Young People and Music Participation Project reported a significant drop in the number of children playing a musical instrument following their move from primary to secondary school (O'Neill, Sloboda, Boulton, Ryan, Ivaldi and Luck 2001: 4). The content gap between music at school and the music experienced by adolescents in their out-of-school lives, together with the difficulties of traditionally trained teachers in handling different genres of music (Bray 2000, Green 2008), contributed further to the sense that 'a good deal of lower secondary school music is unsuccessful, unimaginatively taught, and out of touch with pupils' interests' (Hargreaves, Marshall and North 2003: 156). On the other hand Lamont, Hargreaves, Marshall and Tarrant (2003) reported a more encouraging picture: teachers and pupils with positive attitudes towards music, high levels of involvement in extra-curricular music at school and informal music-making outside school and that 'most pupils enjoyed some if not all aspects of the statutory curriculum up to Year 9' (p. 240); but they noted the low level of interest in GCSE music. Even if children were not enjoying class music, they might well be participating outside class and potentially benefiting as a result.

In 2001 John Sloboda suggested that classroom music as then conceptualised and organised might be an inappropriate vehicle for mass music education in the 21st century Britain (2001: 243) and pointed to out-of-school provision as offering a more effective environment (2001: 253). Ofsted observed in 2009 that most effective teaching occurred in extra-curricular activities and instrumental lessons, but such provision varied greatly from school to school (Ofsted 2009: 26). Their 2012 report noted that just 12% of secondary pupils had additional music lessons and 11% took part in (school-based) extra-curricular music, so 'in terms of pupil learning hours, time allocated by schools for class curriculum music education represents a far greater number of pupil learning hours than that given to additional instrumental/vocal tuition and extra-curricular ensemble activities' (Ofsted 2012: 59). So there is a question as to the effectiveness of school classroom music in delivering music education in terms of the musical outcomes, let alone any transferable skills; however, relying on extra-curricular activity would mean too many children miss out.

The early years of the 21st century saw a number of initiatives, such as Music Manifesto[6], Musical Futures[7], Wider Opportunities[8] and Sing Up[9], aimed at addressing the perceived

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[6] **Music Manifesto** was launched in 2004 to bring together parties interested in improving provision of musical opportunity for young people.
[7] The **Musical Futures** programme, set up by the Paul Hamlyn Foundation in 2003, brings 'non-formal teaching and informal learning approaches into more formal contexts, to provide engaging, sustainable and relevant music making for all young people (http://www.musicalfutures.co.uk).
[8] **The Wider Opportunities** programme provides whole-class instrumental/vocal tuition in primary schools, to back up a 2000 government pledge that 'over time, all pupils in primary schools who wish to, will have the opportunity to learn a musical instrument'. It is supported by free training for teachers and any others involved in primary music education (http://www.ks2music.org.uk).

problems with school classroom music in the UK. These have focused on encouraging more active engagement in music making and closing the gap between curriculum music and the music experienced and enjoyed by pupils outside school. This involves some risk that the enjoyment and motivation associated with elective extra-curricular activity is lost in its transfer to the compulsory setting of the classroom, but results to date have been encouraging where the programmes have been properly implemented and resourced.

So the research needed to explore not just which activities and learning environments stimulated particular musical skills and meta-skills, but whether the activities enjoyed most by children related to the types of skills they acquired.

1.4 A different research perspective on transferable skills

From this review of the literature it is apparent that research into the nonmusical outcomes has focused on the shorter term cognitive benefits and transferability across the curriculum, rather than any assessment of the longer term benefits to adult life. Previous research into transferable skills has concentrated on the views of teachers, music educators, pupils and their parents: however, the youngsters were not in a position to gauge the transferable value of skills they were still in the process of acquiring and, while teachers and parents may have observed some behavioural effects in their charges, this is not the same as demonstrating benefits to adult life. To assess these it is necessary to ask adults, who can comment on what skills they believe they gained through their musical education and experience and have since found valuable in other domains of life.

Adults have been asked what they get out of their current musical activities (Coffman 2002), their sense of musical identity (Lamont 2011) and the impact of home and school on lifelong musical interest and involvement (Pitts 2009, 2012). So far it seems they have not been asked in a structured way about the impact of their musical education and activity as a child and teenager specifically on the 'nonmusical' aspects of their lives. There is an opportunity to fill in this missing part of the jigsaw by investigating transferable skills from the perspective of adults and so examine the longer term consequences of music education in terms of nonmusical outcomes too.

A particular area deserving further investigation is whether specific activities and environments are especially relevant for acquiring certain skills through music, and to what extent these can also be acquired through other activities, such as sport. Related to this is the role of extra-curricular activities, within and outside school. A better understanding of the source activities and environments could help explain their potential impact in terms of

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[9] **Sing Up** started in 2007 as a government backed national singing programme for primary schools. In 2012, in response to reduced government funding, the original consortium of partners changed status to become a non profit distributing limited company (http://www.singup.org).

transferability and nonmusical outcomes. Previous studies have looked at the home and school environments (Lamont 2002, Lamont, Hargreaves, Marshall and Tarrant 2003, Pitts 2009), the role of extra-curricular music (Pitts 2008) and the 'third environment' music-making where there is no formal supervision (Hargreaves, Marshall and North 2003) in terms of their influence on musical involvement and identity. My focus adopted in my investigation is not just on the social environments but on the specific types of learning activity taking place at home, in instrumental / vocal lessons, group music-making and public performance and the nonmusical skills attributed to them.

The literature also pointed to difficulties in making connections that would assist transfer of skills between domains, so this project needed to identify which skills seemed to transfer more readily, whether the level of musical expertise made a difference and how non-automatic transfer might be facilitated.

So, to refine my earlier questions in light of the previous research:

a) What transferable skills and attributes do adults believe they gained from their musical education, activities and experiences as children and teenagers that have proved of value to them in the non-music aspects of adult life?

b) Which specific activities and experiences, inside or outside the school curriculum, do they consider contributed to these skills? Might they have been acquired equally (or better) through other activities?

c) How effectively are these skills acquired through such musical activities and do the benefits of musical education depend on a certain level of expertise?

d) How did they prove valuable in adult life and how easily were they transferred?

e) How might the process be improved – and where does the responsibility lie for making this improvement?

The results should prove of particular interest at a time when there is considerable discussion about the future of music education following the Henley Report (Henley 2011)[10] and help provide a fuller understanding of how our musical backgrounds may affect our whole lives.

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[10] In September 2010 the UK government asked Darren Henley to conduct an independent review of music education in England, looking at how the funding available for music education could most effectively be used to secure the best music education for all children and young people. The report **Music Education in England** was published in February 2011 and in November 2011 the government published **The Importance of Music - A National Plan for Music Education.**

2. Method

2.1 General approach and outline design

Investigating transferable skills from music by asking adults what they felt they had gained from their music education and activities as children and teenagers would pose some challenges. The first would be how best to help them recall events from many years ago – events to which they probably had given little consideration in the intervening period and which might by now be quite hazy. They would also be asked to consider the skills they use and value as adults; again, they might not have subjected these to any form of such analysis previously. How easy would they find it to respond on these sorts of topics and how might a retrospective 'lens' possibly influence their responses?

One way of addressing this would be through the sample selection. Studies on using life stories in research indicate that each person will tell their story in a way that makes sense of the past for them (McAdams, Reynolds, Lewis, Patten and Bowman 2001) constructing their life narratives according to where they have ended up, as well as their goals and anticipations of what the future might bring; autobiographical memory is similar in this way but encompasses a greater range of personal information and experience, set within an ongoing life story (McAdams 2001: 117) and 'autobiographical reasoning allows us to evaluate and link together experience into coherent narratives that can be shared with others' (Singer and Bluck 2001: 96). This implied that musically active adults (those who currently participate in music-making, either in groups or on their own) would be more likely to recall their musical education and recognise any transferable benefits from music than those for whom music was less important. As Pitts observes, 'Adults for whom music is no longer a significant part of their identity are less likely to have rehearsed their stories of childhood music discovery' (Pitts 2012: 194). On the other hand, those working directly in music-related fields might find it more difficult to distinguish the transfer of musical skills to nonmusical domains, as their lives are bound up with music to such a great extent: therefore, musically active adults who were not working in music-related fields were chosen as the target group. A less purposive sample might yield more information on the contrast between music and other influences, but this might better form a follow-up project, once results for the musically active had been established as a benchmark

A second challenge concerned language and the choice of appropriate vocabulary to describe the different types of skills (Cohen, Manion and Morrison 2011: 383); a predetermined list of skills based on previous research responses from teachers, pupils and other groups might not resonate with these adults, so it would be necessary to explore how they might articulate such topics in their own way.

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These considerations pointed to a two stage approach: first some form of two-way interaction, such as in-depth interviews, as a useful first step, to find out how adults responded to the topics, how easily they would be able to recall their schooldays and what sorts of skills they might think as due in some way to their musical activities and important to them in their lives outside music (Cohen, Manion and Morrison 2011: 439); then, using their responses, a questionnaire could be devised to obtain more quantifiable results across a wider sample. This would reveal to what extent participants identified the same transferable skills, areas of nonmusical application, source activities and environments. Also, imposing a consistent structure on responses would facilitate analysis of variables and might enable correlations to be found between musical backgrounds and nonmusical outcomes.

Such a sequential research design is described by Bergman as:

> ...possibly the most popular form of MMRD [mixed methods research design], in which an exploratory QL [qualitative] component (e.g., interviews) is followed by a QN [quantitative] component (e.g., questionnaire). In this case, the QL component tends to explore the dimensionality of a phenomenon under investigation before questionnaire items associated with the thus identified dimensions are included in a large-scale survey.   (Bergman 2011)

Focus groups were also considered for the first stage, as these would allow a more developed exposition of the types of skills, which participants could then discuss, the memories of one participant sparking those in another. The disadvantage would be the risk of one or two stronger personalities dominating the discussion and the loss of continuity in individual narratives. There may also be a danger of group effects where individuals feel a need to conform rather than voice dissent from what appears to be a majority view. Focus groups could prove more appropriate for getting reactions from various interest groups to initial findings, and developing a sense of what different stakeholders would value in terms of follow up activity.

Any two-way interaction entails some risk of bias, such as 'leading the witness' or encouraging them to recreate events or connections, consciously or otherwise, which 'please' the researcher (Robson 2002: 274-5). Knowing the focus of the enquiry may prejudice responses and prompt connections to music which they would on reflection revise, or if asked similar questions about team games, attribute to sport. Because the interview responses were intended to inform the questionnaire design, rather than provide conclusive results, that risk was of less concern.

A semi-structured interview, using an outline to ensure the key points were covered, seemed to be most appropriate. Any concern that questions had to be posed in exactly the

same way to each interviewee was not relevant in this context, since it was not suggested that this sample would be representative of a wider population and no comparisons would be drawn between participants. The aim would be to draw out the variety of different individual experiences, in a style approaching narrative interviewing:

> When the interview is viewed as conversation – a discourse between speakers – rules of everyday conversation apply... it helps to explore associations and meanings that might connect several stories. If we want to learn about experience in all its complexity, details count: specific incidents, not general evaluations of experience. Although we have particular experiential paths we want to cover, narrative interviewing means following participants down their trails. (Riesmann 2004: 709)

The resulting outline research plan (Figure 2.1) would be executed over the course of a year, but adopt an exploratory approach, open to review in the light of information gathered at each stage. If necessary, some follow-up activity could probe specific areas further or explore the reactions of other groups, such as employers, to the initial findings.

Background research Literature review	• Effects of music education • Transferable skills • Parallels in sport and extracurricular activities • M ethodological
Initial interviews 5 to 10 Semi-structured Musically active adults in non-music careers	• Establish how easily adults can respond to questions on this topic and what level of detail they can usefully recall • Identify main themes for next stage research • Identify potential problems in stimulating / prompting response • Identify potential categories of participant for us ein analysis phase

Questionnaire 50 plus Musically active adults in non-music careers From contrasting groups	• Explore where adults recognise value of their musical education and experiences to adult life outside music
	• Look for patterns and relationships e.g.:
	  • *variation by age, career / role, group*
	  • *variations by type of music education / level of attainment*

Figure 2.1: Outline research plan

2.2 The interviews

2.2.1 The interviewees

The purpose of the interview phase was to establish the way participants might approach the subject matter and identify the vocabulary they would use, the range of skills and influences they would raise and difficulties they experienced in addressing the topic of nonmusical outcomes. For efficient access the sample was selected from a range of people known to me, with a view to securing a range of experiences and ages. Such use of samples that are both easily accessible and willing to participate has been termed 'convenience sampling' (Teddlie and Yu 2007: 78).

The interviewees were musically active adults working in (or retired from) non-music careers. The rationale was that, if there were transferable benefits from music, musically active adults (i.e. those who currently participate in music-making, either in groups or on their own) would be more likely to recognise them, while those working directly in music-related fields might find it more difficult to discern the transfer of skills to nonmusical domains. Two interviewees were graduates of music academies but worked outside music. . Of the nine interviewees four worked in professional services, two in training and personal development, one in charity fundraising, and one in university administration; one was a retired teacher and chair of a local choral society. Five were male and four female; three were under 40 years old, two between 40 and 50 and three over 50. Two had been educated in the US, one in Australia and the rest in the UK.

2.2.2 The interview outline

The interview structure was designed to last about 45 minutes, but sessions were scheduled for an hour, to allow time for setting up, explaining the background and signing consent forms as well as permitting some flexibility for discussion. Interviews were all conducted face-to-face, recorded digitally and then transferred onto computer for transcription and analysis using N-Vivo. Interviewees were assured of anonymity and confidentiality and they were provided with verbatim transcripts for their review, so they could amend or add to comments if they wished. The interview outline is included as Appendix 1.

2.2.3 The interview findings

The nine interviews set out to explore two aspects: the 'content' elements that interviewees might identify through their responses (e.g. adult roles, types of musical activities, skills and attributes) and the 'process' side in terms of how easy they found it to recall activities, identify roles and skills and make connections between their childhood activity and adult life. The former would influence what questions to include in any subsequent questionnaire; the latter would provide guidance on how to structure it.

Content findings

The key findings are summarised here, to indicate the ways in which they informed the design of the questionnaire. The method of analysis was to identify common themes emerging from the transcripts and then to code relevant passages to these themes to enable basic frequency counts (i.e. how many of the interviewees mentioned the item, not the total number of mentions).

Roles in adult life

Roles related to three categories: career and job; leisure time; and family. Work roles appeared uppermost in their minds and they were conscious of a single position encompassing a number of different roles (e.g. consultant, manager and mentor). Family and leisure roles were mentioned less often than anticipated: some additional references to these emerged later during the interviews, but they were not brought up during this initial question.

Career roles	N	Leisure roles	N	Family roles	N
Facilitator	4	Performer	4	Spouse, life partner	3
Administrator	3	Organiser	4	Parent	2
Manager	3	Chairperson	1	Son	1
Teacher, trainer	3	Social secretary	1		
Team leader	3	Sports team member	1		
Accountant	2				
Consultant	2				
Customer service	2				
Fund raiser	2				
Analyst	1				
Developer, mentor	1				
Researcher	1				
Sales	1				

Table 2.1: Roles in adult life (from interviews)

Early experiences of music

Early influences fell into three categories: self; home and family; and school (Table 2.2). All but one came from musically active families and most developed an interest in learning an instrument early on, in some cases prompted by parents or availability of an instrument. Memories of this were admitted to be hazy and at times carried a whiff of family mythology.

Self	N	Home / family	N	School	N
Wanted to learn an instrument	7	Family active musically	8	Played recorder at school	3
Started instrumental / vocal lessons	6	Parents decided on lessons / instrument	3	Infant school teacher encouraged	1
Picked up or given instrument	1	Siblings already played	1		

Table 2.2: Early experience of music (from interviews)

Later experiences of music

These responses reflected formal and informal musical education as well as experiences of participation and performance, at school and outside (Table 2.3). Although most started singing or playing instruments before school age, school activities played a key role in developing their musical interest, in particular as they entered teenage years and started to participate more in instrumental ensembles first at school but then outside. The exception was involvement in church choirs, which tended to predate group music-making at school.

Education	N	Participation	N	Performance	N
Specialist music lessons	8	School orchestra	8	Group performance	7
Formal instrumental / vocal lessons	7	Outside orchestra	6	Solo performance	3
Informal instrumental learning	2	School choral group	6		
		Outside choral group	4		
		Church choir	4		
		Musical shows	2		

Table 2.3: Later musical experience (from interviews)

The group revealed a wide range of music making, in many cases at quite advanced levels, but there was just one example of regular performance outside traditional styles of classical and light music. Most relied on formal instrumental and vocal lessons but one or two learnt informally for a while; even the most informal musician had a background in a cathedral choir. Comments reflected the variety of individual situations and also mentioned the pressures of increasingly busy teenage lives and having to decide where music fitted in.

Musical skills acquired

In the interviews musical skills were discussed before moving onto nonmusical outcomes and transferable skills.

IV-related topics	N	Other topics	N
Instrumental technique	8	Music theory / analysis	8
Playing / singing by ear	6	How to read music	6
Sight-reading /-singing	5	Arranging	4
Improvisation	5	Writing, composing	4
Voice lessons, coaching	4	Music history	2
How to sing	4	Conducting, musical direction	1
Aural skills	4		
Memorising	4		
Learning by copying	1		

Table 2.4: Musical skills acquired (from interviews)

Topics covered fell into two broad categories: instrumental / vocal learning (IV) and topics more associated with classroom learning, but not just theoretical (Table 2.4). The striking feature from responses was the inconsistency in the scope and content of lessons as well as the separation of the theoretical from the practical, with little connection between classroom learning, instrumental or vocal lessons and group performance activities. While nearly all received instruction in instrumental technique and music theory, interviewees had very different exposure to improvising, aural, memorising, writing and arranging music and conducting or musical direction. This could possibly lead to different outcomes in terms of transferable skills and so required further investigation in the questionnaire.

Other benefits from music

This area of discussion allowed interviewees to articulate some of the broader benefits they felt they had gained from music, before getting into the detail of transferable skills.

In music	N	Through music	N	From making music	N
Anchor, source of self	4	Social activity with others	8	Buzz from performing	4
Source of joy	4	Connecting to others	5	Sense of achievement	4
Spiritual dimension	4	Building friendships	3	Expressing something	4
Relaxation	3	Creating community	2	Giving pleasure to others	2
Balance, perspective	3	The difference it can make	1	Satisfaction of harmony	2
Feeling better	2	(to people's lives)		Cognitive abilities	2
				Being in spotlight	1

Table 2.5: Other benefits from music (from interviews)

Table 2.5 reflects three different angles: the benefits people find <u>in</u> music; the social benefits that can come about <u>through</u> music; and the forms of personal satisfaction and growth from active music-<u>making</u>.

Personal attributes and skills gained from music and used in adult life

Table 2.6 brings together the responses from four different questions. The numbers reflect how many interviewees mentioned the skill or attribute in the discussion; they were not presented with a list.

Personal attributes	Through Music	Used as adult	Skills	Through Music	Used as adult
Discipline	9	5	Working in a team	7	7
Perseverance	7	2	Listening skills	6	5
Playing a part in something bigger	7	5	Tapping into creativity	4	3
Openness to others' ideas	6	7	Attention to detail, thoroughness	3	4
Sense of responsibility	6	4	Connecting with the spiritual	3	1
Setting high standards	6	5	Giving / receiving feedback	3	2
Confidence in public	5	2	Project management	3	4
Creativity	5	2	Understanding the human condition	3	2
Being prepared to 'busk it'	4	3	Ability to concentrate	2	1
Sense of overall structure	4	3	Communication skills	2	3
Structured but flexible	3	4	Explaining / promoting own ideas	2	4
Getting along with folk	3	5	Organising, managing	2	4
Valuing solid foundations	3	2	Breaking down tasks into chunks	1	0
Sensitivity	3	0	Directing a group	1	2
Self-confidence	3	3	Managing peer pressure	1	0
Handling success and failure	1	0	Persuasiveness	1	3
Humility	1	1	Analysis	0	3
Self-worth, self-esteem	1	1	Team leadership	0	3
Understanding own strengths and Weaknesses	1	1	Mediating	0	2
			Technology	0	2
			Sociability	0	2
			Memory	0	1
			Selling	0	1
			Negotiating	0	1
			Running meetings	0	1

Table 2.6: Personal attributes and skills gained from music and used in adult life (from interviews)

Interviewees were first asked about the personal attributes they felt they gained through their music education and then asked about the personal attributes they used in adult life; the same was then done for skills. The distinction was intended to be that 'skills' might be learnt explicitly whereas 'personal attributes', attitudes and behaviours were usually acquired less consciously. The aggregation of responses provided a quite comprehensive list on which to base the questionnaire content, but the interviews revealed that the distinction between

personal attributes and skills was not consistently clear enough to be helpful, so was not used in the questionnaire.

The influence of other activities

Some interviewees recognised that qualities they had developed through music were evident in others who had no such musical background, so must have been gained through other activities. A number of them had actively participated in sports of various sorts during their youth and drew interesting parallels in terms of performance, teamwork and perseverance, as well as contrasting the two influences. The idea that sport was more competitive than music did not hold water with those who had taken the music academy route. However an increasing commitment to music did not always leave them with much time for sport, so its influence had diminished. The questionnaire would need to probe the relative influence of music and other activities.

Views on music education

Towards the end of the session interviewees were asked to reflect on their own music education, the role of music education in personal development and its place in the school curriculum. There were a number of regrets expressed about not doing more serious practice; some wished they had learned other instruments, acquired a better grounding in theory or taken music further academically, but overall there was a conviction of how much they had gained through music and a belief that all children should have opportunities to benefit likewise. However, their own opportunities had not all depended on or arisen from the school curriculum.

Process findings

While interviewees could talk quite fluently about their current and recent musical and career experience, some of them found it difficult to recall the details of their musical childhood. They all took time to start to make connections between music and transferable skills, but the idea grew on them as discussion progressed and they started to make sense of this. As one commented: 'actually this is very helpful: it's like one of those connect the dots pictures and you end with a picture.'

The interviews opened with a question about adult role(s), intending to ground things in the present and provide a target to return to, rather than diving into a seemingly open-ended life history at the start. As it turned out they found the role discussion quite challenging and seemed rather relieved to get onto the less demanding subject of their childhood experiences.

The core of the discussion was around the skills and personal attributes and they certainly provided plenty of possible items to include in a questionnaire. In addition they also pointed to various factors in their musical activities and outside them that might affect the types of

skills they would acquire. With a couple of exceptions, it proved more difficult for them to identify connections between specific musical activities and particular adult skills; they even wondered if these skills were something developed through their musical activity or a predisposition that just happened to find expression or an outlet in music.

The list of other benefits they produced shows how music pervades their lives today, even though it is not their career; and in many cases they wished they had done more while young to be able to enjoy the fruits even more. The distinction between musical and nonmusical outcomes was not always clear cut and the questionnaire would need to allow scope for responses on wider benefits that participants might consider more important than just the transferable skills.

Their comments also raised areas for concern in music education: the separation of practical and theoretical; the need to establish enjoyment before it was driven out by increasing focus on technique, but ensuring good foundational technique was established to avoid later frustration; the significance of home background, parental support and opportunity at school and outside it; the need to develop a variety of interests and basic skills, before being faced with the pressure of other priorities and the need to specialise. In a questionnaire people would require free-form space to respond on these topics, explain their individual situations and help put additional flesh on their answers.

2.3 The questionnaire

The information gathered from the interviews was used to construct a questionnaire that could be deployed online to collect more structured responses on the main questions of interest. These fell into three main areas:

i.   the skills and attributes gained from music, the skills and attributes useful in adult life outside music, the wider benefits experienced, together with the key source environments and types of activity credited with developing these and the level to which music or sport or other activities might be influential;

ii.   the type of musical background including the level of formal and informal instrumental learning, the level of specialist music study, the extent of group participation and the amount and type of performance experience, together with some assessment of which musical activities they enjoyed most as children and teenagers; and

iii.   free-form responses on the most valuable transferable skills, the key musical influences and motivation, views on their own musical education and thoughts about music education and its place in the curriculum.

In addition there would be some personal information relating to age and gender, as well as their current musical activities. Short comment fields in each section would allow respondents to add further information and explanations if they wished.

2.3.1 The questionnaire design and build

An online format offered advantages in terms of distribution, collation and analysis, as well as enabling respondents to navigate the questionnaire more efficiently by skipping sections not pertinent to their background. Initially LimeSurvey was used but at key stages of the questionnaire it was unable to route previous answers through to subsequent questions, meaning that respondents would have to rekey their answers. SurveyGizmo was then adopted, which offered better routing as well as a more advanced presentational and analytical functions.

Findings from the interviews		Implications for the questionnaire
Musical experiences across a range of activities and environments	Starting ages / different activities and instruments	Key areas / dimensions to include in questionnaire.
	Formal / informal activities	
	In school / out of school	
	Group participation	
	Public performance	
Musical learning in different contexts, with varying content	Instrumental / vocal	Investigate lesson content / focus: what is learnt where.
	Classroom	
	Informal learning	
	Separation of practical and theoretical	
Other perceived benefits from music	Benefits *in* music, *through* music and *from making* music	Although not necessarily 'nonmusical outcomes' participants need opportunity to describe wider benefits important to them.
Attributes and skills gained from music and used in adult life	Extensive list of skills / attributes	Provide list for first selection of skills in questionnaire
	Distinction between attributes and skills not helpful.	Remove the distinction when listing these in the questionnaire
Influence of other activities	Considerable comment on other sources of transferable skills, especially sport.	Investigate the extent to which participants attribute nonmusical skills to Music, Sport and Other activities.
Acquisition and transfer of skills	Difficult to identify connections between musical skills and skills used as adult	Provide more structured approach to attributing skills – simplify by focus on Top 5 and on skills groupings
Recalling early experiences	Interviewees need some time to refocus on these events	Provide an introductory question to facilitate the transition
Identifying skills used as an adult	Interviewees took some time to identify these.	Re-purpose the 'roles' question to lead into the identification of adult skills

Table 2.7: Implications of interview findings for the questionnaire

The structure of the questionnaire and sequencing of questions were given a great deal of consideration in the light of the interviews (Table 2.7 summarises the implications of the interview findings for the questionnaire design). After the preamble of consents it would be important to engage respondents quickly, so it was decided to delay asking for personal profile information until the end. (This later proved a disadvantage in that data from partial

responses could not be categorised by age group or gender.) Introducing questions about adult roles and current activities too early might risk 'contaminating' responses on musical background, so the first section went straight into musical activities in childhood and teenage years; this would also have the benefit of providing a relatively straight-forward start before getting into more complex areas.

The interviews had suggested that respondents would need help in focusing their minds on their early childhood and then later refocusing on their adult lives, so questions were placed at the start of these sections with a view to assisting this mental adjustment. In the first section this would prompt them to recall some of the key elements and the differences between nursery/primary school and their secondary school experience. The second section started by asking about their adult roles, before moving onto questions about the skills found important as an adult. In both cases the questions were designed not so much for the value of the data as to prepare respondents for the topics to come.

For most interviewees the benefits of music in childhood had centred on their enjoyment of the activities and the value of their music education to their adult lives was primarily musical. To recognise this, the two sections closed with questions addressing this broader context. The free-form fields in the third section provided further opportunity to bring in any important elements respondents felt were missing from the earlier questions; finally, as part of the personal profile, they were asked give some indication of the types of musical activities they were engaged in today.

The lists of the skills were based on the interview responses. To make the long list of potential skills and attributes from music more manageable, they were first consolidated as far as possible and then analysed by type of skill, resulting in five categories: self-management (SM), self-efficacy (SE), team working (TW), inter-personal (IP) and organisational (OS). After making an initial open selection of skills they had gained from music, respondents were asked to focus in more detail on the five items they considered most important and to provide further information as to the area of musical activity mainly responsible for each skill and where in their adult lives they used them.

To establish the extent to which music was the most important influence, respondents were asked to compare its effect with that of sport and of other activities on each of the five skill categories (SM, SE, TW, IP, OS). Finally they were asked to assess more general benefits from music by rating their agreement / disagreement with 15 statements about the wider benefits they felt they had gained from their music education and experience as children and teenagers. The core material on transferable skills (the nonmusical outcomes) was contained in the central section (Part 2) of the questionnaire; Part 1 and the personal

profiles would provide the basis on which to investigate possible relationships between individuals' backgrounds and the reported outcomes. Part 3 would provide additional information to clarify or enlarge upon earlier responses in a more qualitative way.

So while the questionnaire was principally a quantitative design, some of the questions asked respondents to assign a numeric value to a more subjective assessment, through ranking or rating a list of items or scoring responses on a Likert scale. Such numeric values are designed 'to facilitate pattern recognition or otherwise extract meaning from qualitative data' (Sandelowski, Voils and Knafl 2009). In addition the opportunity to comment on each question and to provide longer free-form comment in Part 3 would help engage participants and mitigate some of the frustrations that questionnaires induce in respondents if the 'boxes' seem to preclude their individual situations. This approach attempted to generate sufficient quantitative data to permit comparisons and correlations to be drawn at the aggregate level, but also gather additional individual 'colour' from the free-form responses.

To test the design, the questionnaire was piloted with a number of musically active adults, some with experience in research, some working in music; the purpose of the pilot was to establish whether respondents could follow the instructions and navigate successfully and to identify any potential areas of difficulty. As a consequence of the pilot there was a change to the sequencing of two questions, further rationalisation of lists and some clarification of instructions and layout, but in general the questionnaire was found to be challenging but effectively structured. Some of the pilot respondents also commented on how interesting they found it.

The final questionnaire is included at appendix 3 (although the print copy cannot capture the more user-friendly look and feel of the on-line version). Despite all the design effort, this remained a relatively complex questionnaire that might take 45 minutes or more to complete. It was important to give respondents the chance to reflect and revise answers if necessary in the light of their evolving thoughts, so a facility was provided to 'save and complete later' which let respondents complete it over a period of days rather than all at once; this also allowed them to review their responses before submitting them.

2.3.2 Targeting respondents

Three different groups were approached: the music society at a professional services firm based in London, a choral society in Sheffield and a choral society in Eastbourne, with the aim of reaching a range of ages and experiences of musically engaged adults. The link to the questionnaire's website was sent out by each group's secretary along with an accompanying introductory explanation. Contact email details were provided for any queries or to request a paper version of the questionnaire to complete off-line.

2.3.3 Questionnaire responses and analysis

There was an initial surge of responses, which could be tracked via the website, but it emerged later that there was a problem with the 'save and complete later' function, in that the automatic emails which should have provided respondents with a link back to their saved work were in some cases being caught by 'spam' filters. This may have resulted in a higher level of incomplete responses than anticipated. It is also possible that older respondents were discouraged by the online technology and others by the complexity of the questions compared with other online surveys they may have completed.

There were 37 complete responses, rather fewer than the expected minimum of 50. In all 67 started the questionnaire but 10 left during the introduction and consents and a further 7 left during the first part, on musical education and background; of the remaining 50, ten did not go on to part 2, three left during part 2 and one during the final section (free-form responses). This gave a total of 36 online responses plus one completed by hand.

An initial descriptive analysis revealed the high levels of musical activity among the respondents as children and teenagers, in terms of instrumental learning, group participation and performance experience. The sample covered a wide range of achievement in both instrumental playing (in terms of Associated Board grades and beyond) and specialist academic study of music (through to degree level). Nearly all had a background of formal instrumental tuition, although a number had learnt other instruments informally for fun and classical music was the predominant genre, with only a few examples of folk, jazz and rock/pop. While this might be seen as a disadvantage, it provided a level of coherence across the sample in this project; future studies could address a wider range of backgrounds, including those with more informal musical education, those who went on to work in music and those who did not continue with music.

The free selection of skills from music gave some initial indications of the most recognised skills and comparison with the list of skills valued in adult life indicated scope for further analysis. Attempts to use Principal Component Analysis to reduce the lists of skills from music and skills valued in adult life to a smaller group of factors proved problematic, due to the large number of items compared to the sample size. However the quantitative approach proved fruitful in generating not just a clear ranking of skills, but some unanticipated findings around the Top 5 skills and the related information, which showed up a remarkable match between categories of skill (SM, SE, TW, IP and OS) and source environments (Home, Classroom, IV lessons, Group activity, Public performance).

The free-form comments in Part 3 were analysed in the same way as the interviews, by identifying themes and then coding responses accordingly. Some of this information

corroborated the questionnaire findings on skills; the rest served to provide contrasting individual experiences and perspectives of music education.

The small sample size presented difficulties in obtaining results with any statistical significance from correlations and regression analysis. While some general tendencies might be observed, such as in the relationship between an earlier starting age and higher scores for general benefits, these were found to be quite slight and the level of individual variation considerable. In this light, further analysis depended on examining the descriptive data overall and then looking for differences between various sub-groups, based on the respondents' musical background (described further in 3.3.1). Given the purposive nature of the sample, generalisability had not been an objective; the questionnaire was intended to confirm the most important factors involved in transferable skills, which could then be used for further investigation, possibly in a simpler, larger scale survey, aimed at reaching a more diverse sample. It would also allow some assessment of the effectiveness of adopting quantitative as well as qualitative techniques to investigate the topic.

3. Results

The results reported below are based on thirty-seven complete questionnaire responses. The first section looks at the skills respondents felt they owed to music and how they related them to adult life and their musical activities in childhood; the second section describes the profile of the respondents in detail and examines the different elements in their backgrounds that might influence the outcomes; the third section reports the analysis by sub-group in search of potential consistent connections between musical activities as a child and teenager and the transferable skills subsequently attributed to music.

3.1 The skills identified by respondents

Skill / attribute: full description given	Category	Short name	Total	Top 5
Understanding own role in delivering something bigger	TW	Own part in bigger	28	7
Listening Skills	IP	Listening	28	8
Discipline – putting in the work	SM	Discipline	27	15
Concentration, attentiveness	SM	Concentration	25	7
Commitment to a common goal	TW	Common goal	24	10
Self confidence	SE	Self confidence	24	12
Confidence in public performance	SE	Confidence in public	22	9
Sense of responsibility to others, respect for others	TW	Responsibility & respect	22	8
Perseverance through setbacks / challenges	SM	Perseverance	21	10
How to express / release emotion	SM	Emotion	21	3
Sense of self-worth / esteem	SE	Self esteem	21	2
Thoroughness, attention to detail	SM	Thoroughness	21	10
High standards, commitment to a quality product	SM	Quality	20	7
Tapping into creativity	SM	Creativity	18	6
Balanced view of own strengths and weaknesses	SE	Balanced view of self	16	3
Breaking challenges down into manageable chunks	OS	Chunking	16	4
Connecting with the spiritual, something beyond oneself	SE	Spiritual	15	10
Sense of overall structure / bigger picture	OS	Sense of overall	14	1
Directing a group to an end goal or performance	OS	Directing others	14	3
How to cooperate, negotiate, compromise	TW	Cooperation	13	4
Giving / receiving feedback	IP	Feedback	12	1
Being prepared to 'busk it', improvise, take risks	SE	Busking it	11	1
Understanding cultural differences	IP	Cultural differences	11	2
Resilience, can handle success and disappointment	SM	Resilience	11	5
Openness to others' ideas – no single right answer	IP	Openness	11	2
Valuing the importance of solid foundations	SM	Foundations	11	7
Ability to analyse	SM	Analytical	10	3
Organising events, project management	OS	Event mgt	10	2
Running meetings and discussions	OS	Meetings	8	2
How to build consensus	TW	Consensus	7	0
Explaining / promoting your own ideas	IP	Own ideas	6	1
Managing peer pressure	SE	Peer pressure	3	0

Table 3.1: List of skills attributed by respondents to music education and activities as a child and teenager

3.1.1 Skills attributed by respondents to their musical education and experience

In this question respondents were asked to select skills or attributes they felt they owed to music from a long list of 32 items under five categories: Self Management (SM); Self Efficacy (SE); Team Working (TW); Inter-Personal (IP); Organisational (OS). They could select as many as they felt they had gained through their musical education and experience as children and teenagers. Each item was selected by at least three respondents (8%) and leading items by twenty-eight (76%). Individuals selected between 0 and 29 items, with a mean of 14.1. They were asked to narrow this down to the five that they considered most useful to them in adult life. Table 3.1 shows the 'long list' scores are for each item compared with the number of appearances they make in respondents' Top 5 lists.

It can be seen that although only a minority of individuals selected Spiritual for their long list, a high proportion of them held onto this in their Top 5 list, bringing it up from 17th position to joint 3rd. Listening has the biggest fall and Emotion and Self-esteem end up near the bottom of the table, but overall it is interesting how many items managed at least one or two mentions. Just two items failed to make anybody's Top 5.

In terms of skill categories, the dominance of Self-management (SM) and Self-efficacy (SE), with 44% and 22% respectively of respondents' Top 5 selections, suggests a strong bias towards *intra*-personal skills addressing an individual's independent activity rather than *inter*-personal skills relating to dealings with others. Team working (TW) attracted 18%; Interpersonal skills (IP) and Organisational skills (OS) each received less than 10%. A few respondents chose only SM and SE skills in their Top 5, but most music-making involves working with others to some extent and the majority of respondents had a selection across several skill categories; just one had nothing at all from SM or SE.

3.1.2 Skills valued by respondents in their adult lives

To prepare them for this topic, respondents were asked to focus on the various roles they had played as adults: roles, rather than current jobs or careers, in order to bring into consideration not just skills and attributes associated with the workplace, but also those used in a family, social or community context. Table 3.2 shows a broad categorization of responses. While there is a core component of professionals, as might be anticipated from the target groups, there were some more specialized jobs and a variety of other roles that had a single mention each, revealing a diversity lurking behind people's work personae: optometrist, volunteer police officer, fund raiser, newsletter editor, traveller, flower arranger, actress, bar worker, scrum half, preacher, Brown Owl.

Role	#	Role	#
Managing, leading teams	22	Analysing	3
Advising	9	Chairing groups	3
Financial	8	Administering	2
Caring	8	Community volunteering	2
Teaching / training / mentoring	8	Studying	2
Performing	7	Playing sports	2
Creating / developing	4	Engineering / technical	2

Table 3.2: Categorization of responses on adult roles

Respondents were then asked to rate each of 20 items on a scale of 1 to 5 in terms of its importance to their adult life. Responses tended to the high end of the scale, with no item averaging less than 3.5. Figure 3.1 shows how the skills were rated in terms of total scores, with the highest going to Thoroughness, Perseverance, Analytical approach, Commitment to delivering quality, Listening and Teamwork; the lowest went to Negotiation / mediation, Running meetings and Creativity.
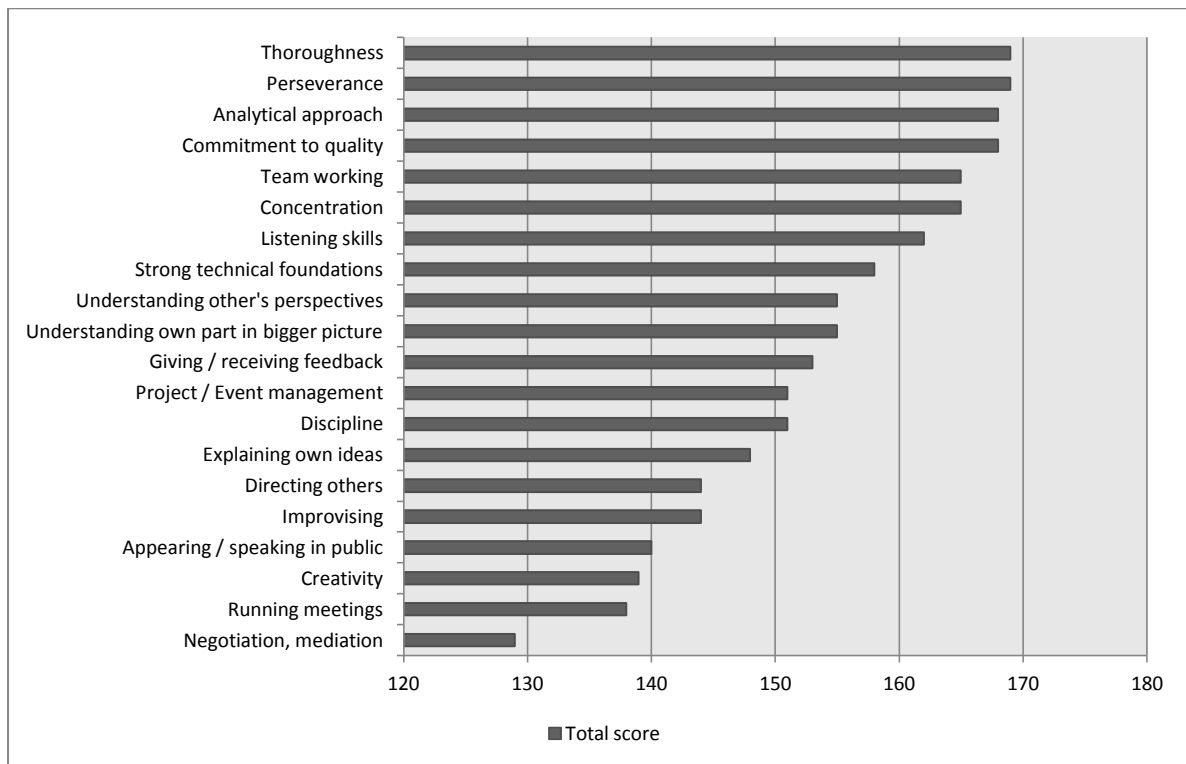

Figure 3.1: Skills important to adult roles ranked according to total scores

3.1.3 Skills valued in adult life and attributed to musical education

It is possible to see how many of the skills respondents considered valuable in adult life (i.e. rated them 4 or 5) they attributed to their musical education. Table 3.3 shows the extent of matching in absolute and percentage terms. It may be surprising to see that items one might assume to be integral to music, such as Improvisation (here 'Busking it') and Analysis, fared so poorly. These also appeared infrequently among the Top 5 skills (1 and 3

40

times respectively). It may be that some categories and skills are just more relevant to adult life or more connected to music than others, but there are other possible explanations: there may not have been an opportunity to acquire a particular skill during music education; the skill itself may be more complex to acquire or hard to define and pin down; or it may be a difficulty in making the connection between the skill in music and its potential role in adult life. These questions are considered further in the Discussion chapter.

Skill	No. rating adult skill 4 or 5	No. also attributing skill to music education	% attributed to music education
Thoroughness	**35**	**21**	**60%**
Perseverance	**35**	**20**	**67%**
Concentration	**33**	**24**	**73%**
Quality	33	19	58%
Openness	33	10	31%
Own part in bigger	**33**	**25**	**76%**
Analytical	32	8	25%
Listening	**32**	**25**	**78%**
Common goal	**32**	**20**	**63%**
Foundations	30	11	37%
Feedback	29	9	31%
Event mgt	29	10	34%
Directing others	28	13	46%
Discipline	**27**	**23**	**85%**
Busking it	26	7	27%
Own ideas	26	4	15%
Meetings	26	8	31%
Creativity	25	15	60%
Confidence in public	24	19	79%
Cooperation, negotiation	17	10	59%

Table 3.3: Extent of matching between skills attributed to music and skills valued in adult life
(Bold type indicates those over 20 in absolute terms *and* over 50% matching)

3.1.4 Sources and uses of Top 5 skills

Focusing on the Top 5 skills provided the opportunity to find out more detail behind respondents' choices: they were asked how these skills and attributes proved valuable in adult life and where in their musical background they acquired them. They provided a wealth of information and Table 3.4 gives a selection of comments relating to the items cited most in the Top 5 skills.

	Skill	Value in adult life
SM	Discipline (15)	Knowing that it is possible to make time to do something if you want to achieve a goal. (#25, F, 18-34)
		You don't get anywhere in life without hard work. No-one is just going to hand you life on a plate. (#49, M. 35-49)
		Hours of practice before a performance/exam created an innate understanding that to get the very best output requires focussed effort. (#60, M, 18-34)
		Learning early on to commit effort to getting an end product. (#63, F, 18-34)

	Perseverance (10)	Ensuring something gets done at work despite setbacks/changes to requirements/other problems. (#30, M, 18-34)
		Learning not to take failure personally and not to feel defeated. (#60, M, 18-34)
		It combined with the challenge I found to learn to read and write that with persistence I would win through in the end. (#73, F, 50-64)
		Little and often e.g. practising scales was tedious at the time but it does mean you learn. I'm trying to do the same to brush up on my French now but the problem is finding the time!! (# 66, F, 35-49)
	Thoroughness (10)	Being meticulous and ensuring the end product is as flawless as possible - good for studies (physics, professional) and work deliverables. (#30, M, 18-34)
		Proof reading documents. (#85, F, 18-34)
		Attention to detail is paramount in completing work and tasks to the highest standards. (#38, F, 18-34)
SE	**Self confidence (12)**	Delivering presentations and meeting new people is exponentially easier than I'd imagine I'd find it without musical education. (#27, F, 18-34)
		Given me the confidence to direct and manage a large group of scientists and engineers. (#39, M, 65+)
		Being self confident means that you can assert yourself and assist in the development of others in a work context. (#38, F, 18-34)
		Feeling able to push yourself further and do things that might otherwise be shy of. (#49, M, 35-49)
	Spiritual (10)	It is a reminder that the real pleasures in life are not linked to material returns. (#73, F, 50-64)
		Understanding that I am a spiritual creature helps me cope with work pressure/stress as I realise that there is another 'side' to my life. (#69, F, 35-49)
		Underpins resilience - enables me to question beliefs which underpin what I do, and know when I'm uncomfortable with an activity or role. (#54, F, 35-49)
	Confidence in public (9)	I run training courses as a job, so I need to come across confidently and 'hold' a room. (# 66, F, 35-49)
		Needing to deal with pressure and learning to appear confident. (#85, F, 18-34)
		Music is sole contributor to any confidence I have with public appearances through constantly having to perform publicly. (#27, F, 18-34)
		A crucial contribution not easily obtained elsewhere. (#89, M, 65+)
TW	**Common goal (10)**	Realising that everyone has a part to play - we all have different skills, needed to a more or lesser extent to bring a project to fruition but all equally valuable. (# 66, F, 35-49)
		I love working as part of a group where I can rely on my fellow team members. (#73, F, 50-64)
		Being an employee rather than desiring self-employment. (#51, F, 35-49)
	Responsibility & respect (8)	Don't feel comfortable letting people down. If I've committed to do something, it's because I have a part to play (sorry, no pun intended) and therefore I need to do my bit. (# 66, F, 35-49)
		Allows teams to function smoothly. (#35, M, 18-34)
		Helps me to be the best manager and team leader I can be. (#88, F, 50-64)
IP	**Listening (8)**	The ability to effectively listen and interpret information is key to all my past roles. (#72, F, 18-34)
		Getting information quickly. Giving the impression that you value other people's input. (#35, M, 18-34)
		Ability to identify subtle nuances in communications. (#60, M, 18-34)
		To listen to other people and where they need help in their job. (#38, F, 18-34)

Table 3.4: How respondents found skills from music valuable in adult life (nine most cited items from 'Top 5' list)

Respondents were also asked to identify which environment they felt was the main source for each of their Top 5 skills. When responses were analysed by category of skill some strong relationships emerge (indicated by bold type in Table 3.5). This suggests there was an important and quite distinctive role for each of the source environments in equipping respondents with the skills they found most valuable in adult life. The skill category with the most Top 5 items was Self Management (SM) and the great majority of these were associated with instrumental and vocal (IV) lessons. In contrast Self Efficacy (SE) was linked by respondents to their experience of performing in public and Team Working (TW) to their experience of working in groups.

	Home	School classroom	IV lessons	Group working	Public Performance	Total
SM	8	8	**38**	7	10	71*
SE	5	1	4	8	**19**	37
TW	-	-	2	**22**	5	29
IP	2	6	1	5	-	14
OS	1	1	4	5	1	12
Total	16	16	49	47	35	163

Table 3.5: Top 5 skills by category attributed to source environments
(*2 SM items were not attributed to a source environment)

It is also possible to see the number of respondents assigning specific skills to each of the source environments and where the same skill is cited in more than one environment (Table 3.6). This indicates that individuals may have acquired skills from different environments and.implies that the more different activities someone experiences, the more likely they are to find one that works for them and acquire the associated benefits. (Appendix 4 looks in more detail at the comments explaining these assignments of skills by category; the source environments and activities are considered more fully in Appendix 5.)

Source	Top skills	Category	N
IV lessons	Discipline	SM	11
	Perseverance	SM	9
	Thoroughness	SM	6
	Foundations	SM	4
Group	Common goal	TW	7
	Own part in bigger	TW	7
	Responsibility & respect	TW	5
	Cooperation	TW	3
	Spiritual	SE	3
	Concentration	SM	3
	Directing others	OS	3

Public Performance	Confidence in public	SE	9
	Self confidence	SE	8
	Quality	SM	4
	Resilience	SM	3
School class	Listening	IP	4
	Cultural differences	IP	2
	Analytical	SM	2
	Thoroughness	SM	2
	Tapping into creativity	SM	2
Home	Spiritual	SE	5
	Discipline	SM	3
	Tapping into creativity	SM	2
	Listening	IP	2

Table 3.6: Top 5 skills from music by source environment and activities

In Part 3 of the questionnaire respondents had the opportunity to describe in free form the specific types of activity they felt most valuable to them in terms of skills for their adult life: the areas cited most frequently are Discipline (10 respondents), Team Working (9), Social activity (8), Confidence in public (7), Technical ability (7) and Balance/emotional release (4) and their comments seem to support the same links to source activities in music (Table 3.7).

Source activity in music	Contributed to
Learning / practising	Discipline and attention to detail
Performing	Confidence
Ensemble / group activities	Team working skills and social benefits – friends, enjoyable activity, sense of contributing; part of team effort
Theory, composing	Analytical capabilities; heightened appreciation of music
Listening, engaging with music in general	Self-awareness, enjoyment of life, emotional balance and release

Table 3.7: Source activities in music considered most valuable to adult life

3.1.5 Influence of Music compared to Sport and Other Activities

While these are skills which respondents attributed to their musical education and activities, this is not to suggest they were uniquely or entirely due to music. It is possible that they also owed something to sport or other activities, which also offer opportunities to learn techniques, perform publicly either solo or in groups, find an outlet for emotion and expression, forge social contacts and develop associated skills. Respondents were asked to identify the extent to which they attributed their skills to Music, Sport or Other, according to the categories used in earlier questions (SM, SE, IP, TW and OS).

Based on average ratings Music held a comfortable lead in all categories except OS, where Other came quite close (Figure 3.2); closer examination of the data revealed that relatively few attributed a skill category 'Entirely or almost entirely' (a score of 3) to Music, but a substantial number rated Music as the key influence in all areas except Organisational Skills. Other Activities (mainly academic activities and some youth organisations and clubs)

generally pushed Sport into third place, although in Team Working Sport came much closer (as might be expected).
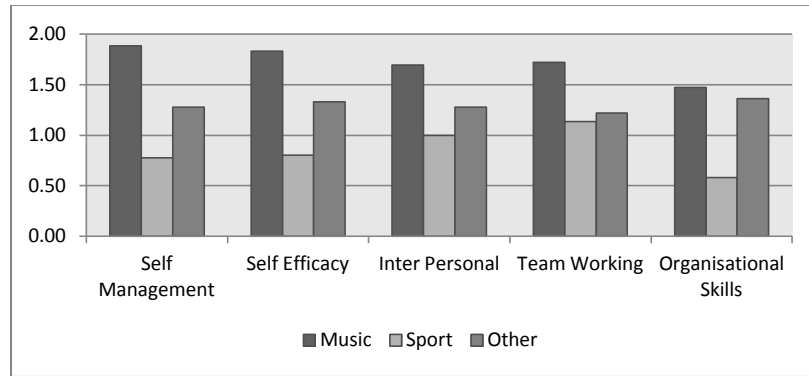

Figure 3.2: Average scores for attributing skills acquired to Music, Sport and Other activities.
(Scale: 3 = Entirely or almost entirely; 2 = Quite a lot; 1 = Only a little; 0 = Not at all)

3.1.6 Benefits from music education

The final question in Part 2 of the questionnaire asked the respondents to rate fifteen statements about the benefits from musical education on a 1-5 scale from Strongly disagree to Strongly agree (Figure 3.3).
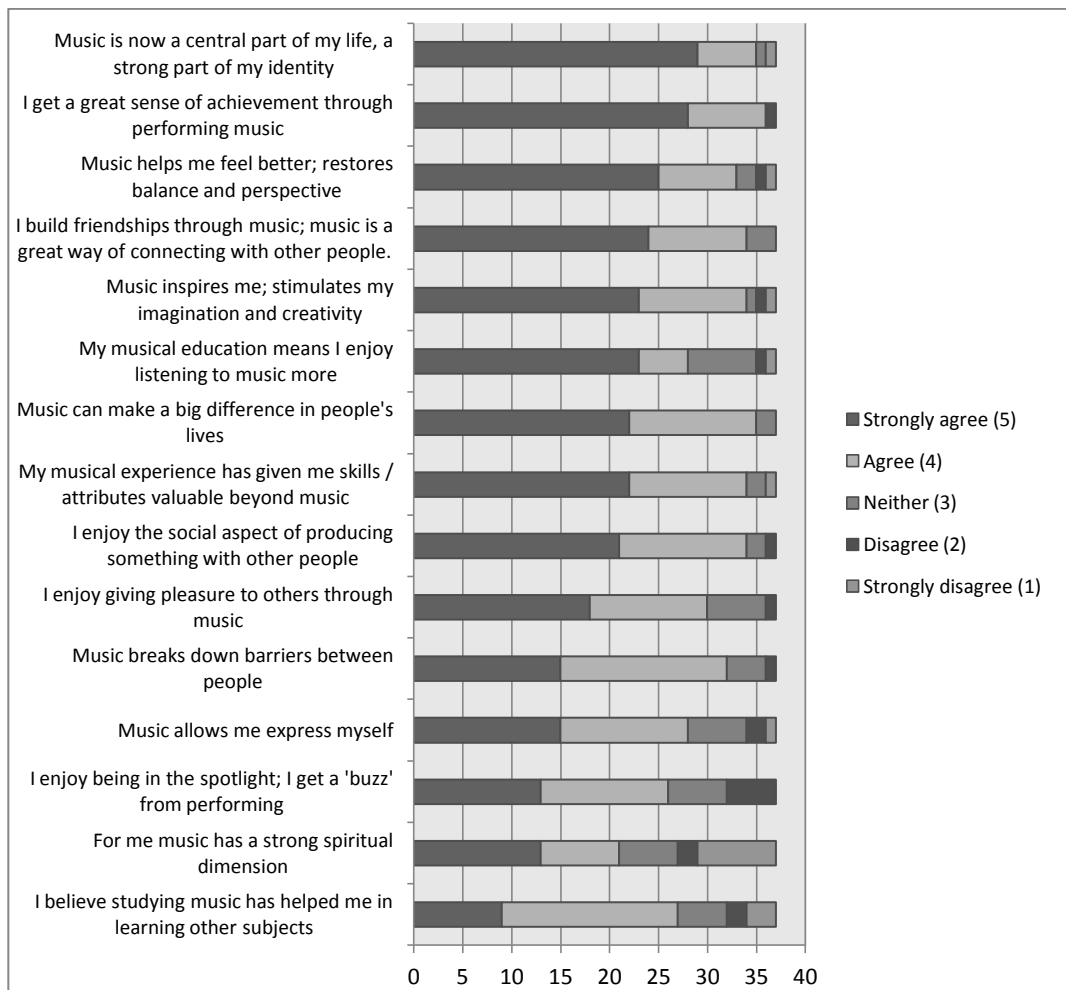
Figure 3.3: Benefits from musical education and activities as a child and teenager

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The results showed a very positive response, with no statement recording an average score below 3.0. Averages for individuals ranged from 2.5 to 4.9, with just two respondents averaging less than 3.0. The statements attracting most frequent disagreement were 'Helped me in learning other subjects', 'Has a strong spiritual dimension' and 'Enjoy the spotlight / get a buzz from performing', but even these had more positive than negative responses.

3.1.7 Comments on motivation and music education

In the final section respondents were able to express views in free-form comments. Table 3.7 (p. 45) showed the key points relating to skills; there were also comments relating to their motivation to pursue music and their thoughts about music education and how it might be improved.

Those who supported and encouraged them were predominantly parents (31 respondents) and school music teachers (16), as well as choir trainers and other family members:

> Parents were encouraging/verging on pushy. School was very encouraging and provided numerous opportunities. Friends with similar interests and creative intent. (#30, M, 18-34)

> The church choir master was inspirational and so encouraging. Luckily he was also my music teacher at grammar school. (#39, M, 65+)

> My parents - who continued to fund various lessons and ferry me around to rehearsals and concerts. The staff at school (which had an excellent music tradition/ethos and facilities) gave up numerous lunchtimes and slots after school to run all manner of groups: wind band/concert band; various orchestras and choirs. (#66, F, 35-49)

> My mother - music wasn't an option! (#67, F, 35-49)

> My choir mistress at school who encouraged and believed in my voice. My piano teacher for having the patience to keep teaching a less than talented pupil and my music teacher for giving me lead singing roles and encouraging and sharing his love of music. (#73, F, 50-64)

But not everyone was so fortunate:

> No support or encouragement. My mum liked watching me perform but that was it! (#36, F, 18-34)

I didn't really get much encouragement. I wasn't competitive and I was lazy as I rarely practised. (#77, F, 50-64)

Their responses on motivation were harder to decipher: the common themes were Parents (8 respondents), Love of Music (8) and Enjoyment (4), followed by a range of secondary items about the challenge, sense of achievement and making friends. Many of these have not changed much over the years, except that parents have been replaced by personal enjoyment, escapism, balance, new friendships and inspirational music directors. There is evidence in some comments of a shift from extrinsic to intrinsic motivation over time:

Initially, parents encouraged me as a young child, since then personal enjoyment and social life stemming from musical activities have been main drivers. Opportunities for new experiences, concerts in different venues and world travel also encouraged my interest as a youth. (#27, F, 18-34)

Initially I wanted to be liked and have something special about me. Now I have used it as a way to meet people and socialise so that I'm not a couch potato. (#36, F, 18-34)

Initially, the personal desire to improve. Over time, this has moderated in favour of a broader appreciation of the value of music and its fundamental part of my life. (#52, M, 35-49)

To begin with I enjoyed getting out of class and feeling special, then I began to realise that I could produce a beautiful sound and that inspired me. (#83, F, 18-34)

The question asking how their musical education could have been improved received quite diverse responses, but the themes are listed in Table 3.8. (The numeric values reflect the number of respondents mentioning a theme; some respondents mentioned more than one theme.)

I wish I had done things differently	26
• Practised more / harder / better	8
• Persevered, taken it further	7
• Done (more) theory / sight-reading / improvisation / ear skills	5
• Learned a different instrument	4
• Started earlier	2
I wish things had been done differently for me	**8**
• More support / encouragement from school	2
• More guidance / a mentor	2
• A different teacher	1
• More small group opportunities	1
• Fewer festivals	1

Table 3.8: Comments on how respondents' music education might have been improved

Most focus on 'what I should have done differently' but there are comments on 'what others should have done differently for me', such as:

School could have been much more encouraging, and helped me to sing better rather than just rejecting my efforts. (I am not tone deaf- I was told my singing was ""too breathy""- but not taught how I might address this). (#87, F, 50-64)

I wish I had had piano lessons. I did lobby for them, and actually had four, but then the teacher died, and my parents never tried to find me another one. (#87, F, 50-64)

I wish that my piano teacher hadn't entered me for so many music festivals - I didn't enjoy being publically judged by an 'adjudicator'. (#88, F, 50-64)

I also wish that my father had not put a complete ban on my improvising on the piano - only exam pieces were allowed! I still feel tense if I try to improvise. (#88, F, 50-64)

On the whole the regrets reflected a group which had the opportunities at school and at home, but there were examples where opportunity was restricted in some way:

One should never look back...but ...I would have practised the piano like crazy. I would have had singing lessons. Trouble is, our family of 3 kids was quite strapped for cash. (#77, F, 50-64)

In the US students must quickly chose between music and sports, causing many children to drop music before they get a chance to develop many of the life skills that music can bring. (#67, F, 35-49)

When asked what would be lost if music disappeared from the school curriculum, respondents revealed a complete spectrum of reactions, reflecting their individual experiences. Table 3.9 assigns the responses to broad categories and shows the number of respondents in each, with examples.

No difference (5 respondents)
I found formal school curriculum mostly irrelevant in my formal musical education. I feel my external music tuition contributed perhaps 99% and school curriculum <1%, if any.
For me, nothing (#35, M, 18-34)
Nothing. I think the ones that want to do music still would…there's no point trying to teach the idiots who don't want to learn. (#49, M, 35-49)
Some difference (9 respondents)
I think I would still have done music if it was outside of the school curriculum. However I would have lost some of the enjoyment of the school activities and classes. (#25, F, 18-34)
A great source of extracurricular healthy activity for those who are not into sport. (#69, F, 35-49)
I think you'd miss out on learning about patience, commitment and discipline, let alone rhythm, harmony and sheer enjoyment of making music together. (#66, F, 35-49)
Opportunity (11 respondents)
Opportunities for self expression and creativity, and to develop skills and abilities not reached by other subjects. (#48, F, 18-34)
Children would be denied access to an extremely valuable opportunity to explore and appreciate what it is to be human. While not all children may wish to take up music, they should certainly be introduced to it and given the opportunity to learn an instrument. (#52, M, 35-49)
Big difference (6 respondents)
Enormous amounts, not least an understanding of music, which enhances enjoyment, teamwork, sense of pride in achievements, discipline. (#26, F, 18-34)
Lots. I would treat it very much like sports at school. (#65, M, 18-34)
A huge amount, many models of cooperation, knowledge of shared cultural heritage. (#50, M, 35-49)

Table 3.9: Comments on impact of music disappearing from the curriculum

The responses show that they did not always draw a clear distinction between music in the formal school curriculum and other musical activity at school, and that some assumed musical training was freely available outside school to all who wanted it. If such activities are important for acquiring transferable skills, to what extent are opportunities to experience them generally available, either within the curriculum or outside it?

3.2 Differences in respondents' musical backgrounds

The previous section reported results for the group as a whole and highlighted the association of different source environments and activities with different outcomes in terms of skills. If these could arise from differences in their musical background, it is important to

look beyond the aggregate picture and examine more closely the variations within the sample to try to establish where variables in terms of music education and experience might have had an impact on the acquisition of transferable skills.

3.2.1 Profile and current musical activities

Gender	Male	35.1%	Female	64.9%				
Age group	18-34	45.9%	35-49	32.4%	50-64	16.2%	65 plus	5.4%
Status	Full time	78.4%	Part time	8.1%	Retired	10.8%	Other	2.7%
Location	London	76%	Sheffield	15%	Other	9%		

Table 3.10: Personal profile of respondents

The sample was drawn from musically active adults, mainly in London and Sheffield. The respondents were predominantly female, under 50 years old and working full time (Table 3.10). They averaged more than three types of current musical activity, the most popular being Going to concerts and Listening to music privately (Figure 3.4).
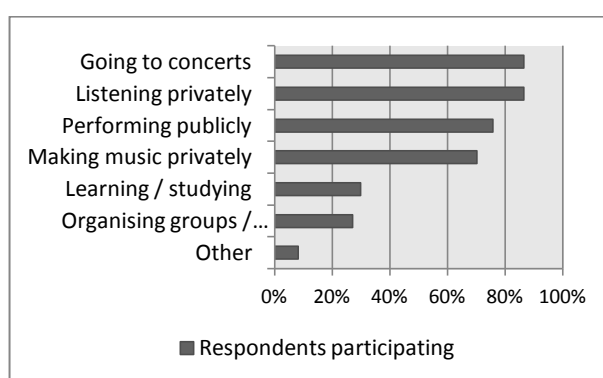
Figure 3.4: Levels of participation in current activities

3.2.2 Participation in instrumental and vocal groups

Vocal groups	Total	School	Outside
Church choir	15	3	12
Other choral	26	22	7
Light music groups	5	3	3
Band – lead singer	2	2	
Band – backing singer	2	1	1
Musicals – lead	8	7	4
Musicals - chorus	12	8	5
Instrumental groups			
Orchestra	23	22	13
Chamber group	19	15	7
Marching / brass band	4	4	2
Jazz / Swing band	7	5	3
Pop / Rock / Folk group	6	3	5

Table 3.11: Participation in vocal and instrumental groups

Twenty-seven (78.4%) of the sample took part in vocal groups at some stage and thirty (81.1%) played in instrumental groups of some sort (Table 3.11). Twenty-two of them did both, six did only vocal and seven only instrumental. Just one respondent in the sample did

neither. Many participated in groups both at school and outside, but unless a specific comment was added it is not possible to judge whether the school activity led to outside interests or vice-versa. On the other hand there are clearly some who participated only at school.

3.2.3 Experience of performing

An important factor emerging from the interviews was performing experience, so respondents were asked about the amount and types of performance they experienced as children and teenagers.

	Total	Informal	Relatives	School	Public paying gigs	Time to time	Frequent
As soloist	34	22	21	30	6	15	18
In small group	30	11	22	26	10	7	21
In large group	33	6	16	30	13	11	21

Table 3.12: Type and frequency of performance experience

These ranged from Informal and For relatives through to Public paying gigs; they also reported the level of exposure (solo, small group, large group) involved and the estimated frequency for each (Table 3.12). Only six respondents recorded no 'Frequent' performance experience of any sort and all but three had some experience performing as a soloist; almost half our sample performed frequently as Soloists, which is nearly as many as performed frequently in Small groups and Large groups.

3.2.4 Starting ages
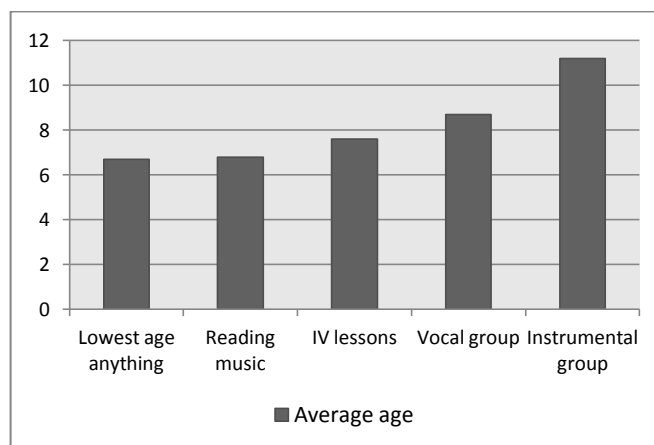
Figure 3.5: Average starting ages for musical activities

Many of our sample started music at an early age. Sixteen of them started learning to read music before the age 7 and another 13 started the following year. Group activities tend to start later, with instrumental groups picking up in secondary school (Figure 3.5). A large number learned to read music within instrumental and vocal lessons (Table 3.13), which could have been outside the school. 'School' in the table below refers to classroom music

lesson, which may well have included instrumental and vocal activities, such as class singing and playing the recorder.

Main place learned	#	%
Instrumental / vocal lessons	23	65.7%
School	6	17.1%
Home	5	14.3%
Other (e.g. Church)	1	2.9%

Table 3.13: Main place where respondents learned to read music

3.2.5 Instrumental and vocal learning

Number of instruments* studied	No of respondents	%
One	10	27.8%
Two	14	38.9%
Three	10	27.8%
Four	2	5.6%

Table 3.14: Number of instruments studied
*For the purposes of analysis and ease of reference,
voice is treated as a category of instrument.

In this sample all but one took formal instrumental or vocal (IV) lessons and most studied more than one instrument (Table 3.14), though not necessarily at the same time. What respondents described as their main (first) instrument was not always the one they started with, but some took more than one instrument to Grade 8 level. One held a Diploma and two Grade 8s in three different instruments; another held three Grade 8s (Table 3.15).

Level achieved	1st instrument	2nd instrument	3rd instrument	4th instrument	Highest level by individuals
Diploma	3	2			5
Grade 8	12	7	3		12
Grade 7	5		3		4
Grade 6	2	3			2
Grade 5	9	2	3		9
Grade 4	1	2	1		
Grade 3	2	1			2
Grade 2	1				1
Grade 1		1			
Other	1	9	3	2	2

Table 3.15: Levels achieved in instrument / voice

Sixteen (43.25%) respondents learnt an instrument or voice informally (Table 3.16), usually for fun and reaching basic levels rather than high proficiency. Only one person learning informally was not also taking formal IV lessons. In terms of the instruments being learnt informally, the guitar (8) and the piano (5) accounted for most of the 21 instances; others were recorder (2), banjo, saxophone, sequencer / synthesizer, voice and double-bass (1 each). These were learned mainly through a mixture of Trial and error (73%), 'Teach

yourself' books (60%) and Friends and family (40%).

Number of instruments* studied	No of respondents	%
One	12	27.8%
Two	3	38.9%
Three	1	27.8%

Table 3.16: Number of instruments studied informally
*For the purposes of analysis and ease of reference,
voice is treated as a category of instrument.

Informal learning usually continued for a period of 2 to 4 years. In one case the individual took formal guitar lessons for a year and then continued studying it informally.

3.2.6 Specialist music studies

Level achieved	All reported	Highest level by individual
Degree	4	4
HND	1	1
A level	9	5
AS	4	2
GCSE / 'O' level	14	7

Table 3.17: Levels of specialist music study achieved

Nineteen (51%) of respondents took music as a specialist subject at least to GCSE / 'O' level (Table 3.17). Among those who did not there were some very active and high achieving instrumentalists.

3.2.7 Activities enjoyed most as children and teenagers

Given the importance of enjoyment to motivation, respondents were asked to score which activities they enjoyed most as a child / teenager on a 1-5 scale. The frequency of positive scores (4 and 5) was compared with the frequency of negative scores (1 and 2) in Figure 3.6.
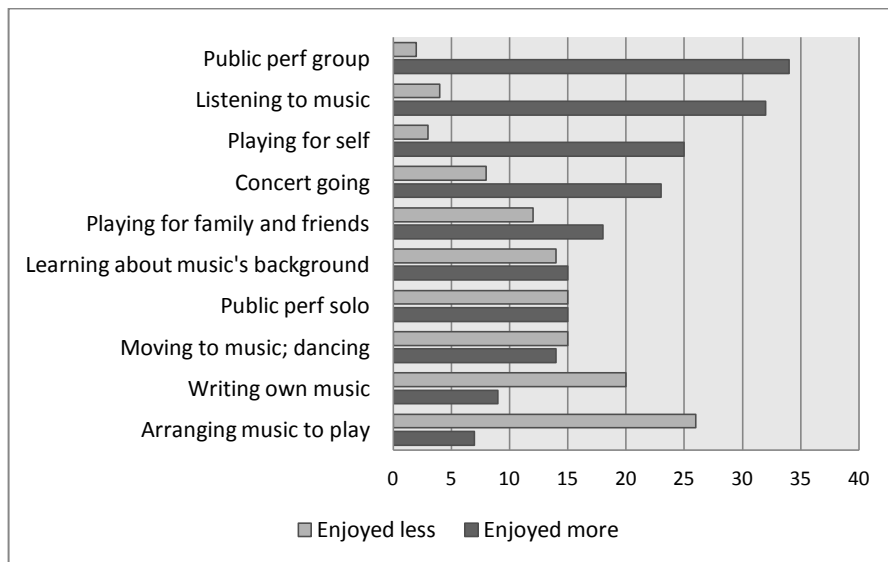
Figure 3.6: Enjoyment of music-related activities as a child and teenager

While there were clear majority views there were also interesting minorities at either end of the scale, as well as the mixed reactions in the middle ground. Performing solo was enjoyed far less than group performance, but the writing activities, composing and arranging, were ranked lowest. These may reflect the sample: those who pursued careers in music might have relished solo performance or writing music more. It is not possible to assess whether the scores also reflected respondents' adult preferences, which might have influenced their recollections.

3.3 Looking for connections

The question that arises is whether there is a pattern relating musical education and activities as a child and teenager to the skills attributed to music and valued as an adult. Given the small sample size and so many variables, it was not possible to perform regression or correlation analysis with any certainty or to draw conclusions about wider populations. Similarly any attempts at Principal Component Analysis (with a view to grouping a number of variables into factors) were problematic.

3.3.1 Comparing sub-groups within the sample

To investigate whether any of the variables in the respondent profiles could help explain differences in outcomes, sub-groups were compared, based on profile variables as described in Table 3.18. A summary of the results of this analysis is shown in Table 3.19 and a fuller account is provided in Appendix 6.

Variable	Grouping based on	Group sizes
Earliest starting age	Earliest age of reported musical engagement (learning to read music, group music making, formal or informal IV lessons)	Under 7 : 19 7 Plus : 18
Performance experience (PE)	An assessment of performance experience, calculated by weighting scores for the type of event (public, informal, school, etc.), the form of performance (solo, small or large group) and the frequency (never, from time to time, frequent).	Higher PE : 18 Lower PE : 19
Instrumental / vocal level attained (IV)	Highest grade level reported for formal instrumental / vocal learning as a child and teenager. The Lower IV group includes all those up to G6; the Higher IV group is from G7 to Diploma	Higher IV : 21 Lower IV : 16
Specialist study	Whether respondents have pursued music as a specialist academic subject. The sample splits almost equally between those who have taken GCSE/O level Music or higher and those who have not.	Specialists: 19 Non-specialists : 18
Group participation	The number of group activities undertaken as children / teenagers. There has been no assessment of the length of time spent on these or whether they are serial or parallel activities, so it is a measure of variety rather than intensity or longevity of participation.	4 plus : 15 Under 4 : 22
Age group	Reported age groups of respondents. Any non-random differences between age groups could be due to changes in educational policy and approaches to music education over the years as well as the changing perspective on life that comes with age.	Under 35 : 17 Over 35 : 20
Matched skills	The percentage of adult skills awarded 4 or 5 by a respondent and then attributed by them to music, so perhaps indicating a measure of 'satisfaction' from music in terms of providing important adult skills. The sample splits three ways, so the comparison is drawn between the high and low ends.	High match: 12 Low match : 13

Table 3.18: Definitions of subgroups used for analysis

There were some characteristics common across those who started earlier, performed more, reached higher IV levels and took music as a specialist subject, who for ease of reference could be termed 'higher achievers'. They seem to have enjoyed all the performing aspects, compared to the 'lower achievers' and to have shown a greater tendency towards IP, TW and OS, although SM remained the dominant skill category; Spiritual, Creativity and Emotion featured less regularly among their Top 5s. Among the wider benefits from music they rated the Spiritual dimension lower but Help in learning other subjects higher; these subgroups also showed higher scores for learning and studying music as one their current activities.

Analysis based on the number of group activities undertaken shows a rather different picture: the 4 plus group proved later starters and attained lower IV levels, yet a higher proportion pursued specialist studies and took them further. Surprisingly their enjoyment seemed less positive and they scored lower on general benefits, except Enjoy the spotlight / the buzz. Their lower ratings on the restorative and inspirational benefits may reflect trying (or even being encouraged) to do too much, or switching between interests rather than developing a more limited range to a higher level. Alternatively their motivation might be more social than musical, although the social dimension is more apparent in the High PE group.

Those high in 'matched skills' also started most activities later, but achieved higher IV levels. Their enjoyment scores were very much higher than the Low Match group, which was dragged down by a couple of outliers and they scored all benefits higher except for Makes a difference to lives. Their consistently high scores on both Adult skills and Skills from music may be the reason for high matching (even on a percentage basis) and so their results may just reflect a very positive approach either to their music or the questionnaire, or both. All these parts of the sample rated Music as the key influence in nearly all skills categories, whereas the rest tended to rate Other activities as more influential in many and sometimes nearly all areas. Yet when we look at the perceived Benefits from music education, for the most part ratings are very similar.

A smaller subgroup consisted of nine respondents who mainly played just the piano; they were also later starters with lower performing experience. Three progressed beyond Grade 5 but just one reached Grade 8; two took music as a specialist subject, but neither went as far as A level. Their enjoyment came from listening to music, playing for themselves and performing in a group setting; they did not enjoy playing for family and friends, let alone performing solo in public. Their Top 5 Skills reflected the pattern for the whole sample but the sources showed a higher rating for Home and a lower one for IV lessons. Music was a

Variable	Earlier starters (any activity)	More performance experience	Higher IV level (grade)	Specialist study	More group activities	Under 35	High on matching skills
Starting Ages	Start all activities earlier	Start all activities earlier except IV lessons	A year earlier on all activities	Start all activities earlier except Instrumental Groups	Start all activities *later* except Vocal Groups	Start all activities earlier except IV lessons	Start all activities *later* except Instrumental Groups
Performance Experience	Higher especially on Solo and Small Group	n/a	Higher on all categories	Higher overall and on Frequent in Large Groups	Higher on all categories	Higher throughout	Higher esp in Small Groups
Formal instruments	Average 3 instruments (vs. 2 for later starters)	More instruments learnt	More instruments learnt	More instruments learnt (required?)	More instruments learnt	More instruments learnt	Average 3 instruments
Formal IV level	Slightly higher	Slightly higher	n/a	Higher level	Lower level	Higher level	High in Gr 8s, but no Diplomas
Specialist study	More Specialists, but fewer degrees	More Specialist up to A level	Only higher group go to A level and Degree; but not all higher group take specialist study	n/a	More Specialists and go further	More Specialists and go further	More Specialists
Enjoyed most	Solo performance, Playing with/for Family and Friends	Less negative generally, Solo performance, Playing with/for Family and Friends, Learning / studying	Much less negative generally *except* Moving to music. More positive on playing esp. Public performance – solo and group	More positive generally, Solo performance, Playing with/for Family and Friends, Learning / studying	Less positive generally, Solo performance	Solo performance, Playing with/for Family and Friends, Playing for self, Learning / studying	Low group very negative
Top 5 skills	Much lower on SM, higher on SE and TW	Lower on SE, higher on IP and TW	Lower on SE, ahead on TW	Lower on SM, higher on TW and OS	Lower on SM, higher on IP and TW	Under 35s just ahead on SM and SE, just behind on TW and OS	Lower on SM, higher on TW
Main source	Higher on Home, Group and Public Performance	Higher on Classroom, lower on Home	Lower on Home, Group and Public Performance	More on Group, Public Performance	Higher on Classroom and slightly higher on Public performance	More on School class, IV lessons, Public Performance	More Group and Public Performance
Key influencers	Music	Music	Music	Music	Music	Music except OS	Music
General benefits	Slightly higher on all *except* Makes a difference to lives	Similar *except* higher on Helped me learn other subjects and 'social' aspects, lower on Spiritual dimension	Similar *except* higher on Helped me learn other subjects, lower on Spiritual dimension	Similar *except* higher on Helped me learn other subjects, lower on Spiritual dimension	Higher *only* on Enjoy the spotlight / buzz; lower esp. on Restores me and Inspires me	Mainly similar but lower on Central part of life and Spiritual dimension	Higher on all *except* Makes a difference to lives
Current activities	More active, esp. In Performing, Learning, Organising	Making music in private, Learning	More active Performing, Learning	Performing in public, Learning, Organising	Learning	Learning	Making music in private

Table 3.19: Summary of analysis by sub-groupings (the factors to the left of the broken line defined the 'Higher Achievers')

strong influence for them across all skills categories, but Sport featured much more strongly alongside Other activities and took the leading place in TW. So this might be a group for whom Music was just one of a range of interests. The benefits they rated higher were Restores me, Inspires me, Has a spiritual dimension; the rest were on a par with the total sample. Despite being in some ways a lower achieving group musically and attributing more to Sport, they recorded benefits just as high as the average, with a particular focus on their internal life.

Overall it would appear that, while some general tendencies were apparent among the sub-groups, these were not clear-cut and there were always exceptions to the rule. Some individuals consistently featured in the 'higher achievers' sub-groups; others appeared regularly among the 'lower achievers', but their perception of the benefits from music was not substantially different.

3.3.2 Individual perspectives

In the enthusiasm to find patterns it is important not to lose sight of the variety of individual responses and circumstances, their different backgrounds and different outcomes. Table 3.4 (p. 38) showed the skills cited most often in Top 5s, but there were also comments that related to items less frequently selected, but just as important to the individuals concerned, such as:

> **SE: Self worth** 'Realisation that my own output has value.' (#30, M, 18-34)
> **SE: Balanced view** 'Learning that there is always somebody better and somebody worse.' (#51, F, 35-49)
> **SM: Emotion** 'Being able to empathise with others as a leader, and to develop as a singer.' (#54, F, 35-49)
> **OS: Directing others** 'Understanding everyone's role and contribution is required for effective team building.' (#63, F, 18-34)

There are some extreme examples, both positive:

> The most invaluable experiences of my life to date. I would be a completely different person without having the musical opportunities I was exposed to and I feel that without this education and experience I would be a much lesser version of the person I am today. (#27, F, 18-34)

 and negative:

> I honestly do not attribute any of the attributes I have needed in life to my (fairly limited) musical experience. If anything, the experience of being refused a place in the School Senior Choir knocked my confidence to the extent that it was nearly fifty years before I ventured to try and join a choir again (an activity from which I now derive great pleasure).The school's attitude was "you're not good enough" rather than "you're obviously keen- can we help you improve?" Not sure I see music as crucial to personal development of other non-musical attributes. (#87, 5, 50-64)

But there are also many who occupy a middle ground: these have participated and performed to a considerable extent in a variety of contexts, usually as a part of their school life, and reached levels of competence in playing at least one instrument. They generally enjoy listening and playing, although they have some reservations about solo performance in public; they are less interested in writing and arranging music. Most have had limited exposure to this and to skills such as improvisation, playing/singing by ear and memorising.

The main transferable skills reported concerned self-management (discipline, concentration, thoroughness) and self-efficacy (self-confidence, confidence), but they also recognised the sense of working as a team, knowing their contribution to the bigger picture, and in particular the listening skills required. There was less emphasis on the creative and emotional aspects, but many cited the benefits of music as a way of restoring balance and perspective, and a source of relaxation and enjoyment, either alone or with others.

'High achievers' (who reached Grade 7 or more, took music as a specialist subject and scored highly in performance experience) recorded similar overall levels of benefits to 'low achievers', even though different respondents experienced benefits in quite different ways, as illustrated by the following comments:

> My friend and I were both choristers at Sheffield Cathedral in our childhood (and were the only ones to do this from our school in our year). At GCSE, we both received 10 A*s (best in school) and also both got marks in the top 5 in the country for English Literature GCSE. I strongly believe that in both our cases, our musical education at Sheffield Cathedral was instrumental to our academic successes. We both went on to have very successful A-level and university careers (I got a first in Classics from Oxford). (#35, M, 18-34)

> I think the benefit is totally dependent on the child and the adults teaching them. As a child I just liked being complimented and as I wasn't "pretty" it gave me a way to feel special. I would have benefited from a bit more of a push from my parents and more of a theory base. I have recently started teaching myself music theory (in my 30s) as I am now reaching a higher level of performance [and] I don't have the theory to back it up. (#36, F, 18-34)
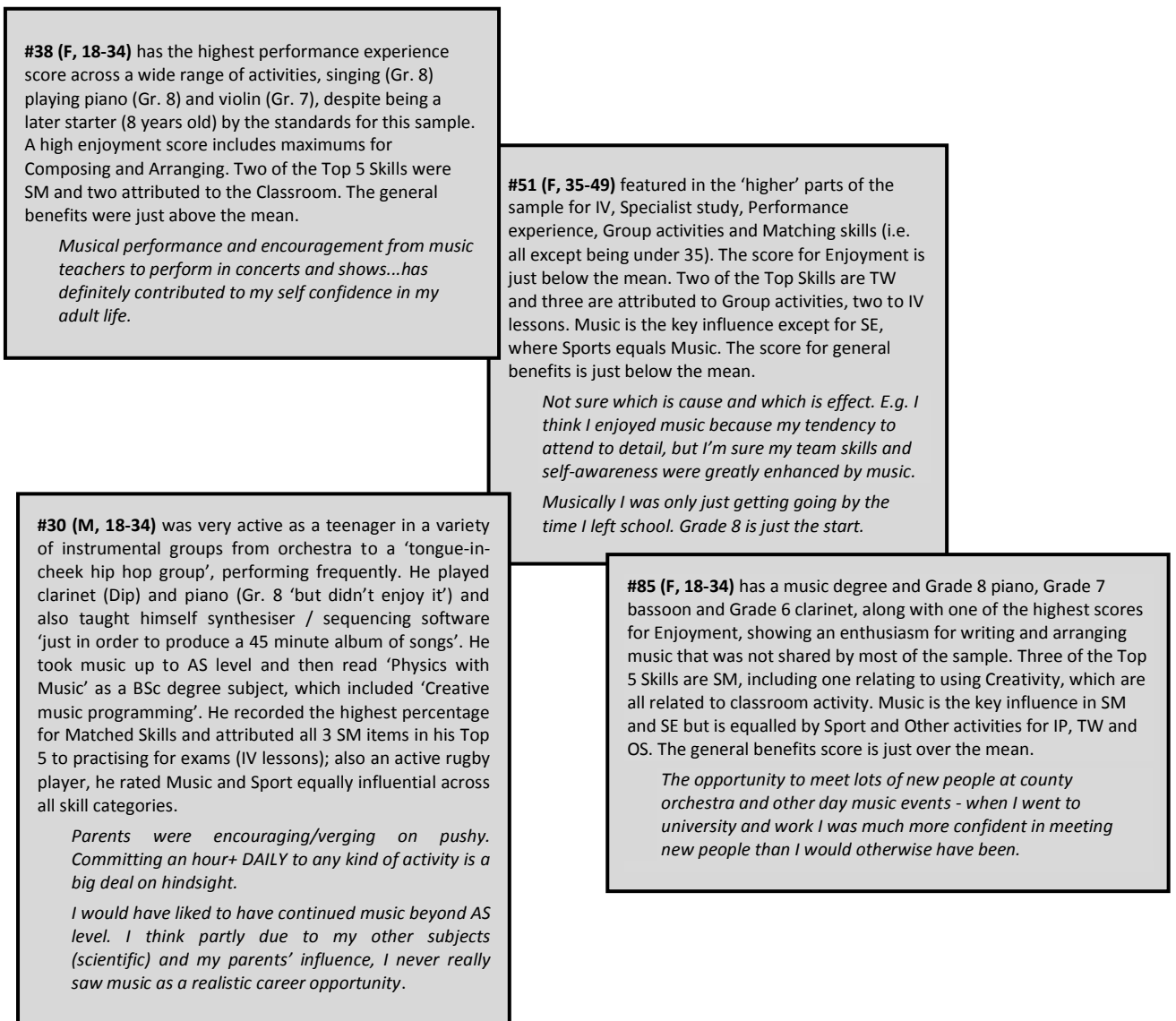
So while the quantitative analysis shows some clear patterns in terms of the skills these adults believed they had gained from musical activities and transferred to their adult lives, the additional free-form information give a sense of the variety of ways in which individuals experienced and benefited from music. The vignettes in Figure 3.7 illustrate both 'high' and 'low' achievers, their differences and their similarities. (A table of individual profiles in included at Appendix 3.)

Some rejected the notion of learning anything as a child that had a value transferable to adult life; others put the person they are today entirely down to music. Some felt that music in the school curriculum did very little for them, whereas for others it was a lifeline. Some

were supported and encouraged by parents and committed, inspirational music teachers, in and out of school; others were not helped or did not have the same opportunities and were sometimes even discouraged from participating. Music may contribute only partially to the competences and skills they have as adults, as they have other interests and activities, in and outside school; but music continues to play an important part in the lives of these adults, providing a wide range of benefits and contributing to their adult identity.

These results, both quantitative and qualitative, have generated a wealth of data, not just addressing the central questions of this research project, but prompting wider considerations about access to opportunity, the focus of teaching activities both in the classroom and in IV lessons, and the individual nature of learning and development. The next chapter discusses the implications.

Figure 3.7: Vignettes (i) some 'higher achievers'

#38 (F, 18-34) has the highest performance experience score across a wide range of activities, singing (Gr. 8) playing piano (Gr. 8) and violin (Gr. 7), despite being a later starter (8 years old) by the standards for this sample. A high enjoyment score includes maximums for Composing and Arranging. Two of the Top 5 Skills were SM and two attributed to the Classroom. The general benefits were just above the mean.

> *Musical performance and encouragement from music teachers to perform in concerts and shows...has definitely contributed to my self confidence in my adult life.*

#51 (F, 35-49) featured in the 'higher' parts of the sample for IV, Specialist study, Performance experience, Group activities and Matching skills (i.e. all except being under 35). The score for Enjoyment is just below the mean. Two of the Top Skills are TW and three are attributed to Group activities, two to IV lessons. Music is the key influence except for SE, where Sports equals Music. The score for general benefits is just below the mean.

> *Not sure which is cause and which is effect. E.g. I think I enjoyed music because my tendency to attend to detail, but I'm sure my team skills and self-awareness were greatly enhanced by music.*

> *Musically I was only just getting going by the time I left school. Grade 8 is just the start.*

#30 (M, 18-34) was very active as a teenager in a variety of instrumental groups from orchestra to a 'tongue-in-cheek hip hop group', performing frequently. He played clarinet (Dip) and piano (Gr. 8 'but didn't enjoy it') and also taught himself synthesiser / sequencing software 'just in order to produce a 45 minute album of songs'. He took music up to AS level and then read 'Physics with Music' as a BSc degree subject, which included 'Creative music programming'. He recorded the highest percentage for Matched Skills and attributed all 3 SM items in his Top 5 to practising for exams (IV lessons); also an active rugby player, he rated Music and Sport equally influential across all skill categories.

> *Parents were encouraging/verging on pushy. Committing an hour+ DAILY to any kind of activity is a big deal on hindsight.*

> *I would have liked to have continued music beyond AS level. I think partly due to my other subjects (scientific) and my parents' influence, I never really saw music as a realistic career opportunity.*

#85 (F, 18-34) has a music degree and Grade 8 piano, Grade 7 bassoon and Grade 6 clarinet, along with one of the highest scores for Enjoyment, showing an enthusiasm for writing and arranging music that was not shared by most of the sample. Three of the Top 5 Skills are SM, including one relating to using Creativity, which are all related to classroom activity. Music is the key influence in SM and SE but is equalled by Sport and Other activities for IP, TW and OS. The general benefits score is just over the mean.

> *The opportunity to meet lots of new people at county orchestra and other day music events - when I went to university and work I was much more confident in meeting new people than I would otherwise have been.*

Vignettes (ii): some 'lower achievers'

#72 (F, 18-34) was involved in a wide range of musical activities at school and performed as a soloist as well as in groups in all formats except 'paying gigs'. She took singing lessons (Gr. 5) and also learnt to play drums (Gr. 5) and guitar ('*Just a few lessons to get started – now compose and perform informally*'). She reports no specialist study, but refers to her GCSE Music in later comments. Although she attributes SM equally to Music Sport and Other activities and IP to Music and Other, and TW, OS and SE are put down to Other activities, when it comes to general benefits from music education she records the highest total score in the group.
Although she did not have an advanced level of musical education and she feels music only contributed to some transferable skills, there is no doubt that music has had a profound impact on her life and she is '*trying to find more time to dedicate to music now*.'

#52 (M, 35-49) was not involved in any musical group activities as a child or teenager but had piano lessons for 5 years, reaching Grade 5. He did not take music as a specialist subject and enjoyed listening to music and playing for himself, rather than playing for others. He attributed SM, SE and IP to Music, Sport and Other activities equally, TW to Sport and Other; OS to Other.

> *Learning to read music and play an instrument were, for me, hugely influential 'life events'. They have created the base for a lifelong interest which enriches many aspects of my life, from self-awareness, to communicating and relating to other people, to disciplined application to a particular activity, etc.*

#66 (F, 35-49) showed promise on recorder at primary school, so took formal lessons before graduating at 11 to the clarinet (Gr. 5). She was also learning piano (Gr. 4) and percussion, and performing in school choirs, orchestra and swing band. She took Music O level in its last year. She rates Music and Other activities as equally influential in all categories except IP, where Other is more important. Her singing has proved the most enduring legacy of her music education and after the summer holidays '*I'm itching to get back to rehearsals – so that proves to me I must enjoy and need my musical involvement*.'

#39 (M, 65+) was a head chorister and sang in his school choir and madrigal group, as well as playing trumpet in the school orchestra and banjo in a jazz band outside school. He had voice and trumpet lessons but taught himself the banjo. He studied Music to O level. His Top 5 Skills include one from each category, but three are attributed to Group activities, none to IV lessons or the Classroom. Music was the key influence in SE, especially in confidence building, and equal with Sport in TW and with Other activities in SM, IP and OS.
He continues to sing in two choirs, including '*a superb chamber choir all the members of which are whole-heartedly committed to producing music to the highest possible level*.'

#69 (F, 35-49) sang in school and church choirs, learnt the piano for six years reaching Grade 5 and also taught herself basic guitar. She did not take music as a specialist subject, but enjoyed listening to music, dancing and playing for herself. Her Top 5 Skills include Spiritual, Emotion and Creativity, all of which are attributed to Home, as is Discipline (although this refers to practising for exams)

> *For me the much stronger part of music is the emotional. It is an important hobby in my life and helps keep my work life balance in check. It is a form of stress management.*
>
> *To put these responses in context music was actually a very small part of my life as I grew up. I played the piano and was in a junior school choir and played the piano/organ at church but it was not a key part of my life. It wasn't until my 20s when I rediscovered music and it became an important hobby.*

#92 (F, 50-64) started singing at home with parents and friends, and then continued in school choirs and Guides. She also took up the recorder and played in the school orchestra until recorders were excluded by a new head of music. She then formed and led a recorder ensemble of Guides and Brownies. She studied piano for four years (Gr. 5) and later taught herself guitar, which led to folk singing at university, and flute. She did not take music as a specialist subject.

> *As a child (i.e. up to age 18) I never listened to pre-recorded music. Music for me was always a live experience.*

Music Sport and Other activities were seen as equally influential and she described music more as a opportunity to exercise some already innate skills (e.g. analysis) or something enhanced by a pre- existing natural attribute (e.g. creativity). She went on to perform in a folk duo for over 20 years, relishing the new experiences and understanding gained and '*the excitement and unpredictability of music making with other people*.'

4. Discussion

The results revealed a wide range of skills and attributes that respondents felt they had gained from their musical education and activities as children and teenagers, but there was considerable variation in how valuable such skills had proved to adult life. Many of the skills were also attributed to some extent to activities other than music; even within music the development of particular skills appeared to be connected with different activities and experiences. This chapter will explore further what the results say about transferable skills derived from or through music: why some skills are cited more frequently than others and their link to different source activities and environments. This leads to broader consideration of how transferable skills are acquired and applied, together with the implications for music education and its role in preparing children and teenagers for rich and rewarding adult lives in a changing world.

4.1. Transferring skills from music to adult life outside music

Frequently cited skills such as Discipline (SM) or Listening (IP) may have some advantage when it comes to transferability, in that they can be readily understood in both musical and non-musical contexts. Discipline did not feature particularly highly in importance to adult life, yet it was the most cited item in Top 5 selections and was strongly connected to music in the experience of most of the sample. However it is not so much a skill developed for a specifically musical purpose as an attribute that helped individuals in the process of gaining musical competence; it was a by-product of studying a musical instrument or what may be termed a meta-skill (Bridges 1993: 50). For example, if the musical skill is the ability to play a scale evenly, the transferable element could be the development of the fine motor skills or the regular commitment and perseverance to build these or even the critical listening and auditory feedback that allows correction during learning.

By comparison, Listening appears to be a more specifically musical skill. Discipline was consistently related to the specific activity of practising, whether related to Home or IV lessons; Listening had a mixture of Class, Group and Home, indicating a range of different activities or contexts where it was involved. The relevance of Discipline to other domains may be quite readily discerned; on the other hand, the transferable value of the types of Listening skills developed through music may not appear so obvious. Although it attracted the joint highest score in the free selection, confirming its strong connection to music generally, it appeared in the Top 5 selections of just eight individuals. Their supporting comments revealed that they were referring specifically to concentrated, critical listening, with attention to nuances and detail: it was this that was valuable to their adult lives, rather than more general listening.

So, if a skill is to be considered transferable, there has to be a recognition that it applies in both the source domain (music) and the chosen target domain. Some skills will be more automatically or unconsciously transferred ('low road' transfer), while others require some reflection or insight to establish the relevant connections ('high road' transfer). It would follow that the possibilities for transfer of skills which are, like musical listening, quite specific to a domain may require more explicit consideration than meta-skills, like discipline, which may be acquired through activities in a number of different domains. On the other hand pupils may be less aware of the meta-skills they are acquiring and so require help in appreciating them.

Low association of a skill with music may be due to not experiencing or being taught the relevant musical activities: creative and improvisatory activities were reported to have little prominence in either IV or Specialist lesson content. However the results showed that some skills might be acquired through more than one type of activity or source environment (for example one respondent attributed her adult ability 'to busk it' to sight-reading required to survive orchestral rehearsals, not to musical improvisation), and that activities other than music could be influential, so care must be taken to avoid over-simplistic connections. Conversely Analysis (set works) was a key feature of Specialist music lessons as well as high on the adult skills list; yet it was not strongly associated with music, so it would seem that either musical analysis was not particularly relevant to generating the analytical approach valued in adult life, or that the connections were not being made between the two that would suggest transferability.

Different individuals might find a specific skill in different activities; furthermore, some skills might flourish best through a combination of different activities. Much will depend on the individual's opportunities, experiences and preferences, so it is necessary to examine the role that source environments play, before looking at how the process of skill acquisition and transfer might be better facilitated.

4.2 The source environments

The results indicated a quite distinctive role for each of the source environments (home, school, IV learning, group activity, public performance) in equipping respondents with particular skills. However there are exceptions: some individuals identified different sources for the same skills or gained different things from the same source. It is likely that the more different activities anyone experiences, the better chance they have of deriving a range of benefits (Lamont 2011: 375) and that the various activities are not just complementary but can reinforce each other if the appropriate connections are made.

The dominant relationships between the different environments and the skills categories may be due primarily to the nature of the activities, but they could also be magnified by what appears to be a compartmentalised approach to music education: while it may make sense for IV lessons to focus on the practical skills and the classroom to deal with more academic topics, such as history, analysis and harmony, there seems to be little interaction and explicit connection between their activities (Figure 4.1). It is hard to see how students can use their understanding of harmony and structure to inform their performances if these topics are taught largely in isolation; the two types of knowledge – descriptive (learning about) and procedural (learning how to) – need to work together. So not only is it important for children to experience a full range of activities if they are to maximise the opportunity for developing a wide set of skills, but there will be additional benefits from helping them connect the different aspects of musical learning and experience.
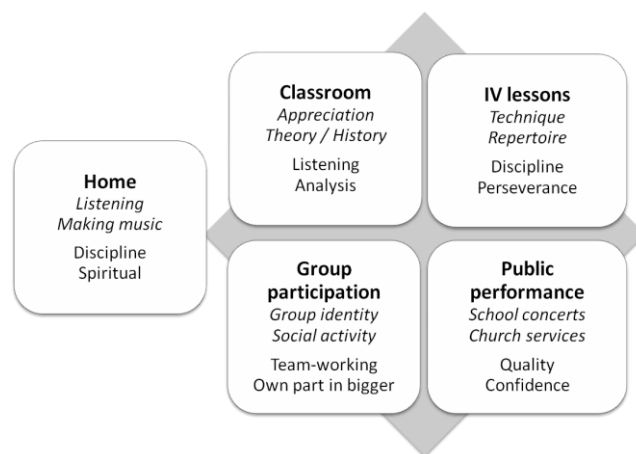
Figure 4.1: Compartmental delivery of music education

Another factor is the apparent imbalance in lesson content: in IV lessons the focus on written repertoire and lack of attention to ear-based skills; in Classroom the lack of training in general musicianship and musical direction, even in specialist courses. The lack of enthusiasm among the respondents for writing and arranging may reflect an earlier era, when creative composition was given little attention compared to formal exercises in chorale harmonisation, but the overall picture may help account for the low scores for items such as Creativity and Emotion.

These two factors, the uneven content within activities and the lack of connection between activities, would seem to limit the opportunity to acquire and apply skills effectively for musical purposes, let alone their transferable value. So can an understanding of the process of wider transferability be put to use within the musical domain, to help students transfer learning from one musical activity or environment to another, make the

necessary connections and 'even up' the types of skills they acquire, for musical as well as nonmusical outcomes?

4.3 Acquiring and applying transferable skills

> Nonmusical outcomes may occur whether or not the objectives of the teacher include provision for them. It is the position of the Music Educators National Conference that these ancillary effects of music instruction "accrue to the student regardless of the motivation that initially led to the inclusion of music in the curriculum."   (Wolff 1978: 74)

The distinctions between musical and 'nonmusical' outcomes are not always clear cut, but in most cases it is the musical outcomes that motivate musical learning: it would be surprising if original motives to study music included the development of discipline, concentration, team-working skills or understanding of cultural heritage, let alone 'to explore and appreciate what it means to be human' (#52), but these are some of the things considered by the questionnaire respondents to be important results of (and in retrospect reasons for) music education.

4.3.1 Acquiring skills within music

Skills and meta-skills must first be acquired within the domain, for domain-specific purposes. Some, such as learning to plan practice time effectively, can be quite explicitly taught, but they only become effective when not just understood but adopted. Hallam suggests:

> Teachers can assist in the development of support strategies by allowing opportunities to discuss issues relating to planning, goal setting, monitoring of work, time management, promoting concentration, managing motivation and ensuring that the working environment is optimal.   (Hallam 2006: 178)

They certainly can, but do they? While skills that take the form of behaviours and values are often said to be 'caught not taught' - gained though doing, copying, experimenting, and trial and error - it helps to make them visible. This might be encouraged and monitored directly via a practice record sheet or diary or indirectly on the basis of progress apparent from one lesson to the next. If, on the other hand, teacher and pupil focus exclusively on the musical learning outcome, the ancillary skills might still be acquired, but less consciously. Evidence from the world of sport indicates that this may reduce the chance of transferring skills effectively to other domains: it helps if the skills and even the potential applications are made explicit (Goudas, Dermitzaki, Leondari and Danish 2006; Jones and Lavallee 2009a).

Reflection and interpretation are important components in the learning process, to help individuals consider their own situation, what they have learnt and where and how they can

apply that learning; and they apply equally within music education (Brown 2009). As O'Neill comments:

> Musical involvement and outcomes are the result of the history of person-context relations that are 'fused' within a dynamic development system that individuals experience as they grow and develop (and the way in which they interpret these experiences). (O'Neill 2006: 465)

4.3.2 Transferring skills from music to other domains

The acquisition of a skill in a particular domain does not necessarily mean that it is transferable to other domains – or even if it is, there is no guarantee that it will be transferred. As mentioned earlier, Analytical approach was rated important to adult life and was a key component of specialist music study, but it featured only three times in Top 5 selections. This may be because there were other more obvious items to choose, but it also suggests that a connection had not been made by many between analysis skills acquired in the musical context and analysis skills required in adult life (most probably work). This may owe something to the relatively advanced forms of analysis demanded of accountants within the sample, but could also relate to the way musical analysis was taught. If it was largely dictated by the teacher or drawn from a text book, it would be unlikely to prove transferable to other domains; but if pupils were helped to develop the ability to investigate and detect themes, patterns and structure for themselves, they would be more likely to develop a meta-skill that would be transferable.

The need to make learning explicit and to encourage reflection on learning experiences is emphasised in the sports-related research into life skills (Jones and Lavallee 2009a); it was even found that explicit training in life skills led to improvement in sports skills (Goudas, Dermitzaki, Leondari and Danish 2006: 435). Skills were developed, often unconsciously, because they were relevant to succeeding in a context important to the individual; transfer across life domains was facilitated by 'a belief that the acquired skills and qualities are valued in other settings, having an awareness of current skills, and confidence in the ability to apply skills in different settings' (Jones and Lavallee 2009b).

So it is important to reflect upon the processes involved in acquiring the musical skills or achieving the desired musical outcome in order to recognise useful transferable skills or meta-skills and identify their potential application in other domains. This may also point up areas where the teaching / learning style needs to be adapted to ensure the learning benefit is acquired. Making the outcomes of learning experiences more explicit not only furthers the *acquisition of skills* but also helps students make the connections that enable *transfer of skills* between domains (Naughton 1996) and adoption of some of these experiential and

reflective learning techniques may at the same time help students improve their skills within the domain.

4.3.3 Level of domain-specific skills and the nonmusical outcomes

A further question is whether a certain level of domain-specific skill must be attained in order to acquire the associated transferable benefits. In comparing the higher and lower achievers, it appeared that although the more advanced musical skills of 'higher achievers' may have given them exposure to more performing experiences in a variety of situations, they did not necessarily record higher enjoyment scores or greater benefits in general from music education; even those in the sample who did not advance far in music as youngsters rated the benefits just as highly on average. It is not possible to say whether the transferable skills of 'higher achievers' were superior, but the 'lower achievers' felt they gained just as much from music, and often focused on areas that were concerned more with enjoying an experience, either personal or shared, than achieving a technical standard.

Maybe because music is not quite as central to the identity of lower achievers they can afford to relax and enjoy it more, able to take it less seriously in some ways. Yet this group also tended to rate the SM and SE items highly and focus on the qualities gained from IV lessons and public performance. Therefore it is conceivable that higher achievers progress beyond those and shift their focus to additional benefits in TW, IP and OS. It also may be inevitable they attribute so much of their competence to music, as they have invested heavily in it, dedicating so much time to music in their youth, and considering or even starting professional careers in music before turning to work in other areas. Others, who had time for wider interests, whether sport or other activities, still recognise the contribution from music but also give greater credit to the role of other influences. The individuals who attributed very little or nothing to their music education were those who had been discouraged or excluded from such experiences (although they still went on to become actively involved in music as adults). So there may be a base level of musical competence required in order to join in groups and perform, and thus open up the opportunity to acquire additional transferable skills, but it certainly does not have to be very advanced, judging from the high levels of participation and performance across the sample. Some benefits are available from being part of a choir or a recorder group as a child; equally these can be seen in adults with little or no previous experience in musical execution joining groups such as Rock Choir[11].

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[11] **Rock Choir** was started in 2005. It offers a very different experience to the traditional classical or community choir, pioneering a new approach to vocal training and entertainment. It has over 16,000 members and rehearses in more than 200 towns across the UK, singing their own versions of pop, gospel, Motown and chart songs, with no audition and no need to read music (http://www.rockchoir.com).

Encouragement may be more important in this than capability, but all will benefit from capable teachers and *animateurs* who can provide not only the initial spark but appropriate guidance for any individual, regardless of background, interested in progressing further, and so open up new opportunities and experiences that in turn bring additional benefits, musical and otherwise.

4.4 Transferable skills for today's (and tomorrow's) world

A final point to consider is whether the skills transferable from music are relevant and valuable to the needs of adults today and in the future. There are clearly changing demands and pressures within the current and foreseeable environment, many of which are driven by global economic dynamics which have an impact on our lives beyond work.

4.4.1 Skills for what?

In *21st century skills: learning for life in our times* Trilling and Fadel (2009) outlined a framework of necessary skills for the rising generation, that enable individuals to contribute to work and society, fulfil personal talents and civic responsibilities and carry forward traditions and values in a way that fosters individual identity and recognises diversity. Around core subjects and 21st century themes they assembled three skill sets: learning and innovation; digital literacy; and life and career (Table 4.1).

They assert that 'transferring what is learned from one context to another' (p. 31) depends on 'authentic learning' (real life or simulation), internal motivation, multiple learning approaches, mental model building and social learning (peers, communities of interest, online groups), so that the ways learning is delivered and accessed are rebalanced to provide a more interactive, personalised experience, available where and when required; particular models and approaches have value for different individuals in different situations and so it is not a question of 'either...or' but 'both...and'; learning is mediated through teachers, parents, peers and experts, within a wider network of learning communities, environments and resources, and progress monitored through a variety of formative, real-time assessments. Education is not something just for schools, but a lifelong experience.

This is just one example of many such lists, but has secured considerable attention and acceptance. So it could provide a basis on which, for example, NAMHE could develop a framework for individual music students to consider which skills they had acquired and what evidence they could show, as well as to identify which skills would be important to their chosen future and seek out how they might be developed during their particular course. This would also allow them to garner evidence for the contribution from music degree courses and work through, perhaps with employers, what it might imply for the future design of music degree courses.

21st century skill sets	Students should be able to:
Learning and innovation skills	
Critical thinking and problem solving	Reason effectively
(expert thinking)	Use systems thinking
	Make judgements and decisions
	Solve problems
Communication and collaboration	Communicate clearly
(complex communicating)	Collaborate with others
Creativity and innovation	Think creatively
(applied imagination and invention)	Work creatively with others
	Implement innovations
Digital literacy skills	
Information literacy	Access and evaluate information
	Use and manage information
Media literacy	Analyze media
	Create media products
ICT literacy	Apply technology effectively
Life and career skills	
Flexibility and adaptability	Adapt to change
	Be flexible
Initiative and self-direction	Manage goals and time
	Work independently
	Be self-directed learners
Social and cross-cultural skills	Interact effectively with others
	Work effectively in diverse teams
Productivity and accountability	Manage projects
	Produce results
Leadership and responsibility	Guide and lead others
	Be responsible to others

Table 4.1: 21st century skill sets
(from Trilling and Fadel 2009)

4.4.2 Implications for music education

> In the twenty-first century a workforce is required which has creative skills and is able to use initiative independently while also being able to work in teams. Education systems are faced with the challenge of equipping individuals with skills that will enable them to fulfil their potential in a world where change is rapid and relentless. Music education can play a crucial role in enabling young people to develop independent and team-working skills and enhance their creativity through composing and improvisation.   (Hallam and Rogers 2010: 105)

This may all be true but in the experience of questionnaire respondents some of the skills cited were not necessarily being acquired successfully through music. This implies that some change in music education may be required to deliver such skills more consistently, let alone ensure their transferability.

In *Music Education in your hands* Mark and Madura (2010) pick up the 21st Century Skills framework of Trilling and Fadel; they enumerate life skills they believe are developed through music but point out 'there are many aspects of music education that can be improved to better integrate 21st century skills', picking out improvisation and composition

as elements not yet integral to the music curriculum (p 137). Yet, while they point out how relevant skills can be acquired in music, they do not consider what might be involved in transferring these skills outside the domain.

Hargreaves, Marshall and North (2003) provide a psychological perspective to *Music Education in the 21st century*, in which they, like Trilling and Fadel, argue for the importance of contexts in providing authentic learning experiences and that the changing contexts require rethinking traditional distinctions between 'specialist' and 'general' music lessons, formal and informal music-making in and out of school (including the part played by the 'third environment' where there is no formal supervision), institutional and community music-making, and even between the roles of teacher and pupil. Their 'globe' model of opportunities in music education (p. 158) helps illustrate what a move from 'either...or' to 'both...and' looks like in music education: the bi-modal distinctions of the past are reinterpreted as continuums, offering multiple routes to individuals. However there is no apparent mechanism to help the individual work out the most appropriate path or synthesise and make sense of their different experiences.

A second model shows the potential outcomes of music education based on three groupings (Musical-artistic, Personal and Social-cultural): each has a particular set of outcomes of its own, but there are also further outcomes, similar to transferable skills, that seem to arise from their combination. Indeed, where the socio-cultural and personal dimensions overlap, metaskills such as 'teamwork' occur, perhaps recognising that they can be acquired through vehicles other than the musical-artistic; however, there is no indication of whether these are automatic or inevitable outcomes. For all their conceptual value, these models are descriptive rather than prescriptive: the outcomes remain 'potential' unless the educational system can deliver the range of experiences and students are motivated to take advantage of them.

4.4.3 The impact of recent initiatives

Since Sloboda's challenge that classroom music as then conceptualised and organised might be an inappropriate vehicle for mass music education in the 21st century Britain (2001: 243), there has been no shortage of initiatives in music education, but most of our respondents had left school before their introduction so any impact is not reflected in the results. Nevertheless it is possible to assess how these initiatives might address some of the challenges identified by this project.

Programmes such as Wider Opportunities and Musical Futures set out to address some of the perceived short-comings by closing the gap between IV, group participation and

traditional classroom music teaching, building on Green's research into informal learning and proposals to bring the strengths of out-of-school musical learning into the classroom (Green 2002, 2008). Musical Bridges[12] has started to tackle problems associated with transition from primary to secondary school.

At the primary level Wider Opportunities demonstrated that whole group instrumental teaching can be effective, but Ofsted found 'the length and quality of these projects were variable, and continuation rates were too low' (Ofsted 2012: 6). The short duration of the experience attracted criticism (p.13) and even though 'a year of instrumental tuition in a large group is probably insufficient to develop high levels of musical skill', some opportunity is perhaps better than none and children may be motivated by this experience to return to music at a later stage in life (Lamont 2011:377). Music is not the only activity that brings benefits and it might be unrealistic to expect more than 'taster' activities within the limited curriculum time available and unfair to preclude opportunities to sample other activities too.

Musical Futures created a structure for delivering a new format for secondary music classes, involving some more informal approaches and a change in the teacher's role, supported by related training. Initial fears about how teachers would cope with the range of unfamiliar musical genres seem to have been overcome and beneficial outcomes outside music lessons have been reported, as well as in uptake of music at Key Stage 4. However, there are still questions as to how this feeds into more specialist music studies at AS and A level, but there seem to have been real advances in engaging the interest of a wider group of pupils (Hallam, Creech and McQueen 2011). Pupils also reported 'it had improved confidence and supported the development of skills relating to independent learning, teamwork and performance' (McQueen and Hallam 2010: 240) and senior managers recognised it 'as offering a way to meet the needs for personalised learning and developing a range of transferable skills in students' (p.237).

There are risks in attempting to bring into the classroom things previously done outside it and some children prefer to keep their informal music-making and even their formal IV lessons away from the school (Lamont, Hargreaves, Marshall and Tarrant 2003: 238). Some schools have interpreted the new approach rather narrowly, focusing on the 'band' aspects, which risks alienating those whose interests lie elsewhere. So, while 'teachers thought they

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[12] **Musical Bridges: Transforming Transition** aims to help primary and secondary schools strengthen their students' experience of school transfer in and through music. Musical Bridges also supports local authorities and music education hubs by providing a music transition framework to help connect and develop students' musical progress between primary and secondary school (http://www.musicalbridges.org.uk).

benefited from the informal learning practices, introducing them to other skills and other instruments, so complementing their tuition' (Green 2008:137), the IoE report advised that 'care should be taken that students who are engaged with more traditional musical activities are not "disenfranchised"' (Hallam, Creech and McQueen 2011: 165). This underlines the need for providing a full range of experiences and learning styles as one will not suit all. There is no advantage in replacing one form of imbalance with another.

While music can offer students the opportunity to acquire skills both for music's sake and potential value elsewhere, inclusion in the curriculum is no guarantee of outcomes: the use students make of the opportunity is beyond teachers' control (Pitts 2000: 41). What is within teachers' control is how they help each student to find his or her own way of realising the potential benefits, musical and nonmusical. This means being open to diversity in genres of music, styles of learning, forms of engagement and types of motivation, as well as encouraging better understanding of the processes involved in both the acquisition and transfer of skills. It also points to the importance of music remaining within the curriculum if all children are to have the chance to benefit.

5 Conclusions

> If we wish to understand how music affects our lives we have to take account of the experiences of the individual. The evidence suggests that many people have already discovered that music is good for them. Now we need to develop an understanding of exactly why and in what circumstances. (Hallam 2001:19)

This research has explored the perspective of a relatively small group of adults, who had access to many opportunities for music in their childhood and teenage years and are probably not representative of wider population. Nevertheless, it has been possible to identify the types of transferable benefits they believe are due to their music education and have contributed value to their adult lives beyond music.

Skills they derived through music covered a wide range but the Self Management and Self Efficacy categories dominated, followed by Team Working. Inter-Personal (apart from Listening) and Organisational Skills lagged behind. It is possible that these more interactive skills, such as Negotiation and Consensus depend on participation in smaller, self-directed groups compared to the skills that can be acquired at relatively early stages through instrumental learning, group participation and performing. However, once basic competence had been acquired allowing access to the experiences of participation and performance, the sense of the wider benefits appeared to be just as strong across the whole sample.

Such benefits have been asserted many times, based on the observations and intuitive feelings of teachers and others in music education, but previously there has been no structured enquiry as to the experience of such transferable skills by those on the receiving end. Furthermore this research has pointed to the activities that tend to be associated with particular skill sets; apparent gaps in music education have implications for musical as well as nonmusical outcomes. Those who felt they did not benefit had either experienced some form of exclusion from opportunities or were not able to take advantage of the opportunities offered, through circumstance or choice. Some wished in retrospect they had pursued music more or differently, but these regrets related to musical outcomes rather than transferable skills. Whatever their backgrounds, currently they are all actively engaged in music.

Music was not the only contributing factor, but very often was the leading one; for some individuals sport or other activities were the key, particularly in TW, IP and OS. Sport may produce just as strong results in terms of teamwork, combining the cooperative and the competitive, but the arts have a key role to play in the creative and expressive areas. Unfortunately these were the very activities that seemed to feature less prominently in the experience of the respondents. If music education teaches students discipline and technique

but not how to express feeling or communicate emotion it loses a vital and distinctive dimension.

Skills might have been lower rated for several reasons: respondents did not experience the relevant activities in their education; they did not realise they had developed a skill (or meta-skill); or they did not see its relevance or transferability to another context. This suggests the need to ensure lesson content develops different skill sets in a balanced way, recognising different learning styles and diverse genres; adopting experiential and reflective learning techniques to make learning more explicit and visible. The school music class could play a vital role in this process by helping pupils bring together learning from their different musical activities, identify the relevant skills and meta-skills and make connections with other domains to which the skills may be transferable.

5.1 Limitations

In some ways the questionnaire produced as much richness of response as the interviews, although the amount of free-form content and additional comment was uneven across the sample, which risks inferring too much from the 'more vocal' respondents. The interviews gave a level of insight into the way adults recalled their musical education and made connections to skills useful in adult life. The quantitative elements proved successful in identifying the skills found transferable and highlighting the connection to source activities and environments, but the questionnaire results are not necessarily representative of a wider sample and may reflect the feelings of an individual on a particular day; given time to reflect or just a different day responses may have been different. However the combination of interview and questionnaire has provided a wealth of information on the perspectives of musically active adults, which has not been fully explored here.

There are always more questions one would like answered, such as some understanding of social and educational differences in the sample, beyond the occasional reference to a prep school or convent. A larger sample might have allowed more quantitative analysis, but despite the complexity of quite different individual experiences a picture has emerged that shows how these adults associate certain skills with specific musical activities; this has raised questions as to the effectiveness of music education in helping students achieve both musical and nonmusical outcomes.

5.2 Where next?

This angle of approach could be rounded out in two ways: first by getting reactions from key stakeholder groups to feed back into the design of a follow-up phase; this could involve taking a simplified version of the questionnaire to a wider sample, possibly through the websites of amateur music organisations, to generate responses from a wider range of

musical backgrounds and interests. A further possibility on this track would be to investigate results from those working in music and/or those who have left jobs in music and have a particular experience of transferring skills from music to their new field of work.

A rather different angle would be to investigate adults with other interests, such as active members of sports clubs. There are other comparisons to be drawn between the world of sport and the world of music in addition to the findings from research on transferable skills in both domains: the role they play in social intervention; sampling different activities before specialising; the balance between developing élite performers and providing music or sport for all; how to mesh in and out of school learning; and how to engage with the 'self-excluders', who think music - or sport - is not for them (Bunting, Chan, Goldthorpe, Keaney, and Oskala 2008: 67).

It might even be better to take a step back and look at the wider picture of transferable skills, bringing together researchers from the arts and sport to investigate how they compare as sources of valuable adult skills. This may also give us clues as to how personalisation to the individual can be delivered within structures designed for the many, as the findings here underline the need to acknowledge 'the significance of individuality, of the particular as well as the general' (Welch 2009: 58).

5.3 Better connections

The potential benefits from music and the current direction of music education seem to be in tune with the demands of the 21st century: the move towards greater personalisation, recognising the need for learning contexts that are real to students, the changing role of the teacher and the value of diversity in process as well as the content of learning. There is also a clear trend towards making better connections across the world of music-making and music education.

Figure 5.1 suggests how the different activities, contexts and outcomes might be brought together to complement and reinforce each other, while recognising the importance of motivation (which moves from extrinsic to intrinsic over time) and enjoyment in securing engagement with the range of opportunites. At the centre is the school, which has potential to provide an anchor-point (Sloboda 2001: 253) and act as a forum where diverse learning experiences may be integrated and coordinated. At the same time each source environment has to play its full part in providing the range of activities that support the whole and deliver the associated benefits, not focusing on one aspect at the expense of another and taking into account different learning styles and objectives.
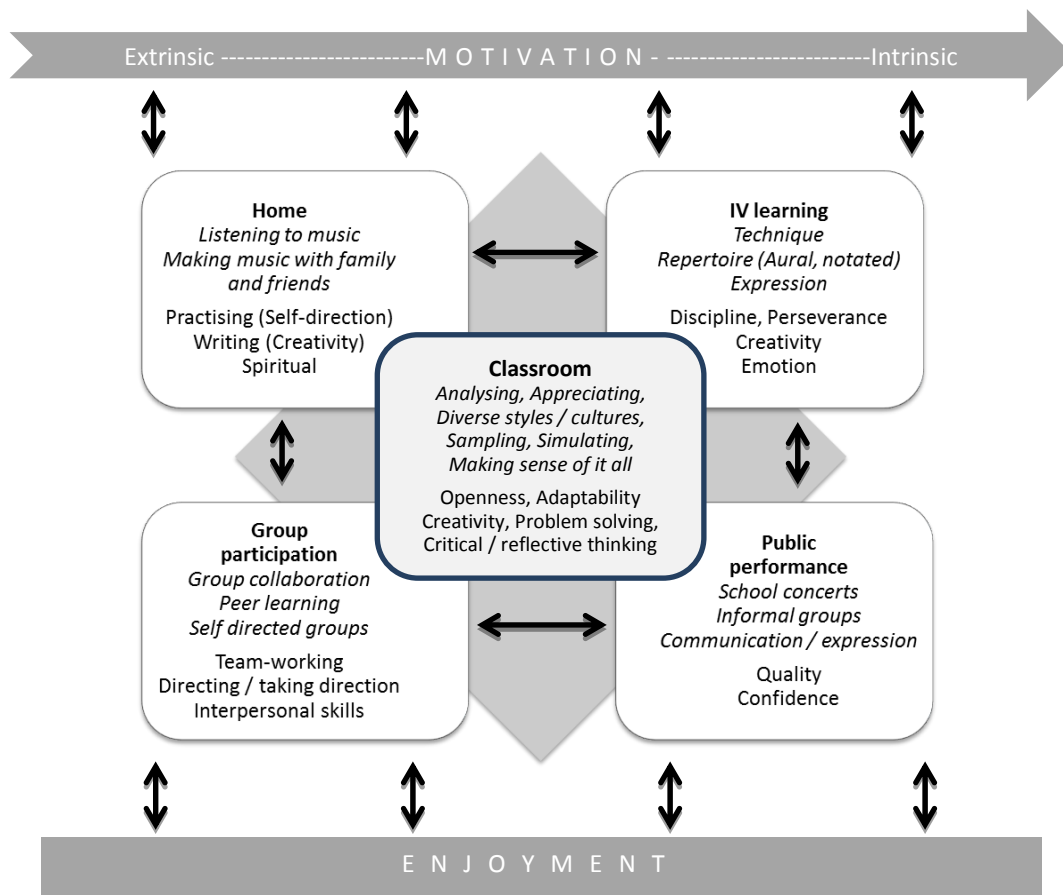
Figure 5.1: Connecting learning across the source environments

Henley (2011) recommended setting up music hubs outside the school environment, to replace the existing music services. This seems to be based on a concept of a service integrator, ensuring efficient use of resources and available funding, rather than a learning integrator. The school, because of its statutory position, can ensure all children get the opportunity to experience the range of musical activity, but more than that, it can help pupils to reflect on their musical learning as a whole, how the elements work together and the significance for each individual's way ahead, thereby supporting both musical and nonmusical outcomes. So the roles of music hubs and schools can be complementary, playing to the strengths of each: the hub providing access to a range of experiences and the school helping students integrate their learning from those experiences, whether in school or out of school. Integration needs to go beyond the school gate and music hubs should have the potential to provide progression routes beyond the school; this could link to a wider community provision, encouraging continuing engagement and embracing later learners.

An improved delivery model is worthless if there are no customers – motivation and enjoyment lie at the heart: 'Engaging rather than ignoring the emotional power of music will make lessons more enjoyable and interesting for everyone' (Hallam 2006: 69). Children have many competing interests which vie for their time and money: they (or their parents)

need to be convinced that the investment is worthwhile, in immediate rewards, such as enjoyment and increased accomplishment, and longer term benefits.

A more integrated approach has implications for the training of classroom and IV teachers, as well as the conductors, *animateurs* and facilitators who work in the wider community music-making, opening up the opportunities beyond school. It also implies a major cultural change in terms of the collaborative working required to support the new delivery model and improved ways to measure progress that include the meta-skills and wider benefits. This could be aided by looking at established approaches to development and assessment that are used in the workplace and seeing how they could be transferred to the educational setting.

Challenges remain in terms of resources; but bigger still are the changes in attitudes and structures to escape 'the problems that arise from expecting millions of diverse individuals to learn in exactly the same way' (Jaffrey 2008) and enable new models to become effective: the cultural shift and professional development needed to support the schools, music hubs and their related activities will be significant. In particular the world of music education has to embrace not just a more collaborative style of working within its own domain, but to be open to engaging with a wider world, including learning from business. This collaboration could extend to their research activities, by working with researchers in sports and other areas of education as well as workplace training and development professionals.

5.4 The ability to transfer skills: the key 21st century competence

For the UK's post-war generation, education was by and large seen as the transmission of a relatively fixed body of knowledge: text books might last thirty years with very little revision. Pupils were prepared for a world that was treated as quite predictable, with the prospect of a working life with one employer and a pensioned retirement at 65 (men) or 60 (women). It was a world seen in mechanical terms, where individuals should be useful cogs in a 'well-oiled machine', where there was a clear organisational hierarchy, with set institutional values, codes of behaviour and ways of doing things, whether in the armed or civil services, commerce, industry, healthcare or education. Planning seemed possible and came in many guises: business planning, career planning, succession planning, regional and town planning, not to mention family planning.

Such a view now appears unimaginative and complacent in the light of recent unpredicted global shocks, but the educational approach was geared to the perceived needs of the time: 'fitting in' and 'playing your part' were expected and any signs of entrepreneurship and creativity might be viewed with some alarm, as likely to upset the smooth running of the organisation. The tail-end of that generation found itself facing the

challenges of a very different world – one they were ill-equipped to deal with and where the old certainties and values no longer applied: the rate of change made the long term planning obsolete and the communications revolution undermined the established hierarchies.

Industrial scale production for mass markets was replaced by faster-footed niche propositions, catering for more individual needs; education was slow to respond, still expecting 14 year olds to make choices about possible careers in a future that would change several times before they reached it. It was not just workplace requirements that were changing: a whole new set of social skills was required, reflecting the changes in communications and in social attitudes. Collaborative working, through networks, exchanging and trading information and ideas, replaced more rigid structures; 'content' knowledge was not enough. It became important to be able to see and make new connections between areas of knowledge, people and processes: mastering the technological tools was a given. Flexibility and adaptability are vital and in themselves presuppose a creative approach to transferring learning between contexts: it is this 'meta-competence' (Bridges 1993) that may well prove to be the most important 21st century skill.

In that context, 'mass' music education is no longer feasible and a more personalised approach is required. The search for a general goal for music education will inevitably fail if it assumes that the aims and outcomes will be the same for all children (Pitts 2000: 40). Individuals take different paths and 'development can be diverse, dynamic and distinctive' (Lamont 2011: 384), so 'keeping an open mind about music is vital, from both the point of view of educators and those being educated, to help everyone achieve their musical potential' (p. 385). This is something that affects not just the classroom: what about the extra-curricular activities? To what extent do these encourage collaboration, rather than participation in teacher-directed activities? Or do they still reflect 'a style of didactic teaching that may be effective in producing well-drilled performances from children with developed musical skills, but involves them in little personal creativity' (Spruce 2002: 39). What are the responses that will provide avenues for creativity, offer more niche propositions, encourage self-organising groups and support risk-taking? Above all, how will pupils be helped to reflect on their experiences and make connections between them?

The initiatives of recent years are just the start of exploring what music education can mean for the future. They can stimulate the way music is viewed, moving away from industrial reproduction and inspiring a shared creativity. In the process they can equip pupils with a range of useful skills and meta-skills, but they will only be acquired if there is the interest and enjoyment in the intrinsic musical outcomes. Music is no quick fix or magic

recipe for high cognitive performance, but involves cost and effort over a sustained period and the outcomes cannot be measured simply by league tables or short term testing.

Advocacy has its place but must avoid over-claiming, over-simplifying and raising false expectations. On the other hand, to insist that transferable skills from music only count if they are unique to music is too limiting and misses the point. Most individuals will acquire such skills from a variety of contexts and experiences. The research has shown how different respondents derived different skills from the same source and the same skill from different sources. Music is not the only or even the best way for everyone to acquire valuable transferable skills, but, for some, music will be the primary, if not sole route. Indeed the arts may prove to be one of the most effective contexts for acquiring personal and social skills important for adult life: the recent initiatives in music education may even provide valuable ideas for evolving teaching and learning practices across the curriculum. No curriculum however can determine what we learn, just give us those opportunities: equally, exclusion of music from the curriculum means that these opportunities are denied to some. Fortunately it appears we do not have to become expert musicians to enjoy the benefits.

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Appendices

Appendix 1: Interview outline

		Prompts	Detail / Responses	
	Introduction	Thanks for agreeing to meet with me. I expect we shall be about 45 minutes Explain my research and where this fits in		
1	**Individual profile**	Name:		
		Age group:		
		Family status:		
		Gender:		
		Career area:		
		Adult roles:		
		Core competences and characteristics required:		
2	**Music education and experience**	**What got you into music?** Home environment First desire to play First desire to learn		
		Music education and activities:	At school	Outside school
		Classroom		
		Extra-curricular: orchestra, choir Music theatre / cabaret		
		At home		
		At church		
		Local organisations		
		Informal		
		with friends		
		on own		
		Instrumental / vocal tuition		
		Formal exams		
		Theory		
		History		
		Performing		
		Composing		
		Improvising		
		What % of your time spent I musical activity?		
		What did you enjoy most?		
		Did you continue beyond school?		

3	**What do you feel you learned / gained from all this?**	Musical skills *Understanding/ enjoying music?* *Instrumental / vocal skills?* Other skills / attributes *Cognitive - how to learn?* *Discipline? Perseverance?* *Self-confidence?* *Self esteem?* *Identity* *Lifelong friendships* *Working with others* *Working alone* *Self directed groups* *Organisational skills* *Handling public performance / appearance* *Communication skills* *Other*	
4	**What other types of activities did you do as a child?**	*Other arts* *Sports - team / solo* *Group activities* *Hobbies* *What do you feel you learned / gained from them?* *Do you feel what you gained was unique to music?*	
5	**How active are you musically now?**	*Listening* *Concert going* *Participating* *Performing* *~ Solo* *~ Group* *Learning / practising* *What % of time spent in musical activity?*	

6	**How useful do you think your musical education and experience has proved in your adult life?**	*Your musical activity*	
		Your work activity	
		Your domestic role	
		Other leisure	
		Spiritual / inner life	
7	**Which skills / experiences / activities would you say have been most useful?**	Where / how did you acquire these through your music education?	
		Were they easy to acquire? *What challenges?*	
		Were they easy to transfer? *What challenges?*	
		Do you think these could be made easier to acquire / transfer?	
		In retrospect do you think music education should put more emphasis on any of these activities?	
		Overall, do you think music education should just focus on being able to enjoy music or also seek to equip children with broader skills for adult life?	
	Close out	*Thank you for your time*	
		Any questions?	
		Would you like to check the write-up?	

Appendix 2: Online questionnaire

Transferable Musical Skills - Adult Perspective

Welcome

Welcome to this questionnaire on Transferable Musical Skills. This is part of an M.Mus research project at the University of Sheffield in which I am investigating which aspects of music education and experience may prove valuable in adult life.

I want to find out which skills and attributes adults believe they have gained through their musical activities during childhood and teenage years and whether these have been useful to them as adults, more broadly than just in a musical context. As a result I hope to identify what adults see as the main transferable musical skills, their areas of application and the musical activities that give rise to them. This will help inform future thinking about music education and how it may deliver lifelong benefits.

The questionnaire is designed for adults who are not professional musicians but have musical interests, regardless of musical style or ability. It is in three parts:
1. Your musical education and background
2. What you feel you gained from this and how it has proved useful or valuable in your adult life
3. Your thoughts on the value of music education and its relevance to adult life

It should take about 40 - 45 minutes to complete; you do not have to complete it in a single session but can save your work and return to complete it later, by clicking on the bar at the top of each page.

Where a question or element of a question is asterisked (*), this means a response is required before moving to the next page. If certain questions do not seem to apply to your particular experience, this is nonetheless valuable information and so 'No' answers to questions are just as important as 'Yes' answers. (Many questions have an accompanying box for optional comments where you can provide additional details, if you wish, and there is space for further comments at the end.)

The responses you provide will be treated anonymously and in confidence, so you will not be identified or identifiable in any resulting report, unless you give specific written permission. All participants who are quoted will be assigned pseudonyms or codes.

If you have any queries about the questionnaire or how the information may be used, please contact me: Peter Bassett at mup03prb@sheffield.ac.uk

If you are happy to take part, please give your consent below (as required by the University's ethics procedures). You are free to withdraw from this study at any time and without giving a reason.

A. Consent

I confirm that I have read and understand the information given above and have had the opportunity to ask questions. *

○ Yes

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, and without my legal rights being affected. *

○ Yes

I understand that data collected about me during this study will be anonymised before it is submitted for publication. *

○ Yes

I agree to take part in this study

○ Yes

B. I am happy for any quotes from my responses to be used anonymously. *

○ Yes   ○ No

THANK YOU FOR ASSISTING WITH THIS RESEARCH

Part 1 Your musical education and activities as a child / teenager (a)

1. What did you cover at school in your **general** music classes (i.e. the ones that all pupils attended)?
Please tick any that apply

	Nursery / Primary	Secondary	Comment
Playing recorder (or similar)	☐	☐	
Playing basic percussion	☐	☐	
Listening to music	☐	☐	

				Comment
group				
Lead singer with band				
Backing singer				
Stage musicals - lead				
Stage musicals - chorus				
Other - please specify in Comment column				

Any further comments on singing groups

3. As a child / teenager did you belong to any sort of instrumental group or band? *

○ Yes   ○ No

Please indicate the sorts of groups you played in

	From age	To age	At school	Outside school	Comment
Orchestra					
Chamber group / ensemble					
Marching band / brass band					
...					

Class singing				
Moving to music				
World music				
Performing in small groups				
Composing				
Improvising				
History of music (composers, styles)				
Theory of music (harmony, structure, etc.)				
Other - please specify in Comment column				

*Any further comments on **general** music classes in school.*

2. As a child / teenager did you belong to any sort of vocal or singing group? *

○ Yes   ○ No

Please indicate the sorts of groups you sang in

	From age	To age	At school	Outside school	Comment
Church choir					
Other choral group					
Barbershop / light music					

Jazz band

Pop / rock group or band

Other - please specify in Comment column

Any further comments on instrumental groups

Part 1 Your musical education and activities as a child / teenager (b)

4. As a child / teenager did you perform music in public? *

○ Yes ○ No

Please indicate the types and frequency of public performances you gave as a child / teenager.

	Types of performance				Overall how frequently did you perform?		
	Informal (e.g. family / friends)	Religious services	School shows / concerts (mainly parents)	Paying public / paid gigs	Never	From time to time	Frequently
As a soloist					○	○	○
In a small group					○	○	○
In a large group					○	○	○

Any further comments on performing music in public

5. Did you learn to read music as a child / teenager? *

○ Yes ○ No

At what age (approx.) did you start learning to read music?

[ ] years old

Where **mainly** did you learn to read music?
Select just one answer

○ At home
○ In school music classes
○ In instrumental / vocal lessons
○ Other - please specify

Any further comments on learning to read music

Part 1 Your musical education and activities as a child / teenager (c)

6. As a child / teenager did you receive *formal* lessons or coaching in a musical instrument or voice? *

○ Yes ○ No

What was your main instrument or voice?

For how long did you take lessons?

Aural skills *	○	○	○
Sight reading *	○	○	○
Memorising *	○	○	○
Improvising *	○	○	○
Singing or playing by ear *	○	○	○
Theory, harmony, analysis *	○	○	○
Other - please specify below	○	○	○

Any further comments on formal instrumental / vocal lessons

Part 1 Your musical education and activities as a child / teenager (d)

7. As a child / teenager did you teach yourself or learn *informally* to play a musical instrument or sing? *

○ Yes ○ No

What was the main instrument or voice you taught yourself or learned informally?

For how long did you teach yourself or learn informally?

From age [   ] To age [   ]

What sort of level did you achieve in this as a child / teenager?

Grade (est.) [   ]   Other - specify [   ]

From age [   ] To age [   ]

Were these group or one-to-one lessons?

What sort of level did you achieve as a child / teenager?

Grade (est.) [   ]   Other - specify [   ]

As a child / teenager did you receive *formal* lessons or coaching in other instruments or voices? *

○ Yes ○ No

Please provide brief details for other instruments / voices studied.

Instrument / Voice	From age	To age	Level achieved	Com
2nd study				
3rd study				
4th study				

What did you cover in your main instrumental / vocal lessons and to what extent?

	Not at all	Only before exams	Sometimes	(Almost) every lesson
Repertoire / pieces *	○	○	○	○
Practice techniques and strategies *	○	○	○	○
Exam / performance tips (e.g. coping with nerves) *	○	○	○	○

As a child / teenager did you teach yourself or learn *informally* any other instruments or voice? *

○ Yes ○ No

Please provide brief details for other instruments / voices studied informally.

	Instrument / Voice	From age	To age	Level achieved	Com
2nd study					
3rd study					
4th study					

How did you teach yourself / learn informally?
Select any that apply.

☐ Trial and error
☐ 'Teach Yourself' book
☐ Online course
☐ Playing with family and friends
☐ Other - please specify *

Any further comments on teaching yourself and informal instrumental / vocal study

Part 1 Your musical education and activities as a child / teenager (e)

8. Did you study music as a *specialist* subject at school or college? *

○ Yes ○ No

To what academic level did you study music?
Tick any that apply

☐ GCSE / 'O' level   ☐ 'A' level   ☐ Postgraduate (e.g. MA, MMus, DMus, PhD)
☐ 'AS' level   ☐ Music degree (e.g. BMus)   ☐ Other - please specify

Which areas did you cover during your specialist music course(s) and to what extent?
Scale: 1 = not at all; 5 = a major component of the course

	1	2	3	4	5
Music history *	○	○	○	○	○
Harmony *	○	○	○	○	○
Analysis (e.g. of set works) *	○	○	○	○	○
Composition *	○	○	○	○	○
Transcribing / arranging *	○	○	○	○	○
Aural skills *	○	○	○	○	○
Keyboard skills *	○	○	○	○	○
Improvisation *	○	○	○	○	○
Performance skills *	○	○	○	○	○
Conducting / musical direction *	○	○	○	○	○
World music / comparing music of different cultures *	○	○	○	○	○
Other - please provide details below	○	○	○	○	○

Any further comments on specialist music courses

9. Which musical activities did you enjoy most when you were a child / teenager?
Scale: 1 = not at all; 5 = hugely

	1	2	3	4	5
Listening to recorded / broadcast music *	○	○	○	○	○
Moving to music / dancing *	○	○	○	○	○
Going to concerts / live music events *	○	○	○	○	○
Learning about the music's background *	○	○	○	○	○

Writing your own music *

Arranging music to play *

Playing for yourself *

Playing with / for family or friends *

Performing in public - solo *

Performing in public - group *

Other - please provide details below

Any further comments on musical activities most enjoyed as a child / teenager

That completes Part 1 of the questionnaire.

If you wish to review your responses before going on to Part 2, then please do so using the BACK button.

If you wish to save your answers so far and come back to complete the other parts later, click the bar at the top of the next page to SAVE AND CONTINUE LATER. You will then be asked for an email address so you can be sent a unique link back to your work in progress.

Part 2: The usefulness of your musical background for your adult life

10. As an adult you may have had a number of different roles in your work and outside it, in your leisure and domestic life. Please describe **up to three** key roles you have held (in a work context or outside of work).

Please specify roles rather job titles, as jobs often involve more than one role (e.g. analyst, team leader and administrator; or teacher and manager) in addition to roles outside paid employment (e.g. club treasurer, carer). Select those roles which have been most important in your adult life.

Role

Role A *

Role B

Role C

11. To what extent have the following skills / attributes proved important to your adult life? Please rate each skill / attribute (0 = not at all; 5 = vital)

	0	1	2	3	4	5
Thoroughness, attention to detail *	○	○	○	○	○	○
Discipline *	○	○	○	○	○	○
Perseverance, resilience *	○	○	○	○	○	○
Concentration, attentiveness *	○	○	○	○	○	○
Analytical approach *	○	○	○	○	○	○
Commitment to delivering a quality product *	○	○	○	○	○	○
Creativity *	○	○	○	○	○	○
Improvising, reacting 'in the moment' *	○	○	○	○	○	○
Strong technical / foundational knowledge *	○	○	○	○	○	○
Speaking / appearing in public *	○	○	○	○	○	○
Explaining / promoting your own ideas *	○	○	○	○	○	○
Listening skills *	○	○	○	○	○	○
Giving and receiving feedback *	○	○	○	○	○	○
Working in teams; self-organising groups *	○	○	○	○	○	○
Negotiation; mediation *	○	○	○	○	○	○
Understanding others' perspectives *	○	○	○	○	○	○
Seeing your part in the bigger picture *	○	○	○	○	○	○
Managing projects; organising events *	○	○	○	○	○	○
Running meetings *	○	○	○	○	○	○
Directing others, leading teams *	○	○	○	○	○	○
Other (please specify below)	○	○	○	○	○	○

Other key attribute

12. Which skills / attributes do you think you gained from your musical education and activities as a child / teenager?
Tick any that apply
Self management (SM)
☐ Discipline - putting in the work

Perseverance through setbacks / challenges

Thoroughness, attention to detail

Concentration, attentiveness

Ability to analyse

High standards, commitment to a quality product

Valuing the importance of solid foundations

Resilience, can handle success and disappointment

How to express / release emotion

Tapping into creativity

Self efficacy (SE)

Self confidence

Sense of self-worth / esteem

Balanced view of own strengths and weaknesses

Managing peer pressure

Confidence in public performance

Being prepared to 'busk it', improvise, take risks

Connecting with the spiritual, something beyond oneself

Interpersonal skills (IP)

Listening skills

Explaining / promoting your own ideas

Openness to others' ideas - no single right answer

Giving / receiving feedback

Understanding cultural differences

Team working (TW)

Commitment to a common goal

Sense of responsibility to others, respect for others

Understanding own role in delivering something bigger

How to cooperate, negotiate, compromise

How to build consensus, mediate

Organisational skills (OS)

Organising events, project management

Breaking challenges down into manageable chunks

Directing a group to an end goal or performance

Running meetings and discussions

Sense of overall structure / bigger picture

Other attributes not covered above

Other a   *

Other b   *

13. From those skills or attributes you ticked, please select the five that have proved most useful to you in adult life, ranking them from A (most useful) to E; then provide some further details about these.

Please scroll across for the final column

	The five most useful attributes from music	How has this proved valuable?	Whi expr
A *	-- Please Select --		-- Ple
B	-- Please Select --		-- Ple
C	-- Please Select --		-- Ple
D	-- Please Select --		-- Ple
E	-- Please Select --		-- Ple

Anything else you wish to add on attributes gained from music?

[ ]

14. In more general terms, to what extent can your competence in each of these areas be ascribed to music, to sport or to other activities a a child or teenager?

	Music	Sports	Other activities
Self Management (SM) *	-- Please Select --	-- Please Select --	-- Please Select --
Interpersonal Skills (IP) *	-- Please Select --	-- Please Select --	-- Please Select --
Team Working (TW) *	-- Please Select --	-- Please Select --	-- Please Select --
Organisational Skills (OS) *	-- Please Select --	-- Please Select --	-- Please Select --
Self Efficacy (SE) *	-- Please Select --	-- Please Select --	-- Please Select --
Other - give details below	-- Please Select --	-- Please Select --	-- Please Select --

Any further comments on useful attributes and their link to different activities as a child / teenager

[ ]

That completes Part 2 of the questionnaire.

If you wish to review your responses before going on to Part 3, then please do so using the BACK button.

If you wish to save your answers so far and come back to complete the other parts later, click the bar at the top of the *next* page to SAVE AND CONTINUE LATER. You will then be asked for an email address so you can be sent a unique link back to your work in progress.

Part 3. Your thoughts on the value of music education to adult life

15. In terms of more general benefits you feel you have derived from your musical education and experience as a child / teenager, please indicate to what extent you agree or disagree with the following statements: *

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Music is now a central part of my life, a strong part of my identity *	○	○	○	○	○
I enjoy being in the spotlight, I get a 'buzz' from performing. *	○	○	○	○	○
I build friendships through music; music is a great way of connecting with other people *	○	○	○	○	○
I believe studying music helped me in learning other subjects *	○	○	○	○	○
Music inspires me; stimulates my imagination and creativity *	○	○	○	○	○
Music helps me feel better, restores balance and perspective. *	○	○	○	○	○
I enjoy giving pleasure to others through music *	○	○	○	○	○
I get a great sense of achievement through performing music *	○	○	○	○	○
I enjoy the social aspect of producing something with other people *	○	○	○	○	○
For me music has a strong spiritual dimension *	○	○	○	○	○
Music allows me to express myself *	○	○	○	○	○
Music can make a big difference in people's lives *	○	○	○	○	○
Music breaks down barriers between people *	○	○	○	○	○
My musical education means I enjoy listening to music more *	○	○	○	○	○
My musical experience has given me skills / attributes valuable beyond music *	○	○	○	○	○

Any further comments on general benefits derived from musical activities as a child / teenager

[text box]

Part 3. Your thoughts on the value of music education to adult life (b)

The following questions give you the opportunity to comment more freely on some areas and enlarge on previous responses.

16. Which specific types of activity in your musical education and background do you feel were the most valuable to you in terms of your adult life?

[text box]

17. What and/or who were the main sources of encouragement and support to your musical activities?

[text box]

18. What motivated you to pursue your musical activities? Has this changed over time?

[text box]

19. Looking back, what do you think could have been done better? What would you choose to do differently?

[text box]

20. If music was not a part of the formal school *curriculum*, what do you think would be lost in terms of personal development?

[text box]

21. Are there any other comments you would like to add before finalising your responses?

[text box]

That completes Part 3 of the questionnaire. There are just some questions now to help with the statistical analysis.

If you wish to review your responses before going on, then please do so using the BACK button.

Statistical information

22. Please provide the following information to help with the statistical analysis of responses

Gender

○ Male   ○ Female

Age group

○ 18-34   ○ 35-49   ○ 50-64   ○ 65+

Status:

○ Employed Full-time

○ Employed Part-time

○ Full time carer / homemaker

○ Student

○ Retired

○ Don't work

○ Other - please specify [_____] *

Current musical activity:

☐ Listening privately / at home

☐ Attending concerts, musicals, etc

☐ Making music privately

☐ Performing music in public

☐ Organising music groups / events

☐ Learning an instrument / studying music

☐ Other - please specify [_____] *

Once the responses have been analysed, there will be a limited number of follow-up interviews to explore some of the questions more fully. If you would be willing to be interviewed, please tick the appropriate box below and provide your email address.

☐ Yes, I would be happy to be contacted for a follow-up interview

If you would like to receive a brief summary of results and conclusions of this research (probably August 2012), please indicate below and provide your email address

☐ Yes, I would like to receive a brief summary of the results.

My email address is: * [_____]

That completes this questionnaire on Transferable Musical Skills. We very much appreciate the time and thought you have put in.

If you wish to review your responses before submitting your responses, then please do so using the BACK button.

Your responses are very important to us. To finalise and send them, please click on SUBMIT.

Thank You!

Thank you very much for taking the time to assist in this research.

If you have any questions or would like to follow up on any of the issues raised, please contact Peter Bassett at mup03prb@sheffield.ac.uk

Appendix 3: Table of individual respondent profiles

Ref. no.	M/F	Age	Earliest age	IV level	Spec. study	Perf. Exp.	Enjoy-ment	Top 5 Skills / Main source of skill					Key influence	Gen. benefits	Current activities
24	M	18-34	12	8	Deg	10.0	43	SE: Conf. in public	SM: Foundations				Music	70	4
								Public Perf							
25	F	18-34	7	Dip	G/O	6.0	28	SM: Discipline	SM: Perseverance	IP: Listening skills	SM: High standards	SE: Balanced view	Mixed	57	3
								Instr / vocal	Instr / vocal	Class	Public Perf	Instr / vocal			
26	F	18-34	5	8	G/O	49.5	41	SM: Discipline	SM: High standards	SE: Conf. in public	TW: Resp & respect	SM: Foundations	Music	73	6
								Instr / vocal	Public Perf	Public Perf	Group	Instr / vocal			
27	F	18-34	6	8 (x3)	[G/O]	49.5	41	SM: Thoroughness	TW: Role in bigger	SE: Self confidence	SE: Busking it	SE: Conf. in public	Music	56	3
								Instr / vocal	Group	Group	Group	Public Perf			
29	M	35-49	6	Dip	G/O	21.5	35	SM: Resilience						70	4
30	M	18-34	7	8(x2)	Deg	20.5	35	SM: Discipline	SM: Perseverance	SM: Thoroughness	SE: Self-worth	TW: Common goal	Music equal	68	3
								Instr / vocal	Instr / vocal	Instr / vocal	Public Perf	Group			
35	M	18-34	6	7		26.5	37	OS: Chunking	TW: Resp & respect	TW: Role in bigger	IP: Listening skills	IP: Explaining own	Music equal	71	6
								Instr / vocal	Group	Group	Group	Instr / vocal			
36	F	18-34	6	8	A	26.0	33	SM: High standards	TW: Common goal	TW: Resp & respect	TW: Cooperating	SM: Concentration	Music	56	5
								Public Perf	Public Perf	Instr / vocal	Group	Home			
38	F	18-34	8	8(x2)	A	40.5	43	SM: Thoroughness	SE: Self confidence	SM: Analytical	IP: Listening skills	TW: Common goal	Music	66	5
								Instr / vocal	Public Perf	Class	Class	Group			
39	M	65+	8	5	G/O	13.3	33	SE: Self confidence	SM: High standards	IP: Listening skills	TW: Common goal	OS: Directing others	Music equal	64	3
								Public Perf	Group	Home	Group	Group			
41	M	35-49	5	Dip	A	15.8	37	TW: Common goal	TW: Role in bigger	OS: Directing others	IP: Openness	SE: Spiritual	Music	73	5
								Group	Group	Group	Group	Public Perf			
45	F	35-49	5	7	A	36.5	28	SM: Discipline	SE: Self confidence	TW: Common goal	IP: Listening skills	OS: Meetings	Music	58	6
								Home	Public Perf	Group	Class	Class			
46	F	18-34	4	8(x2)	A	31.5	31	SE: Spiritual	SE: Self confidence	IP: Cultural diff	SM: Perseverance	SM: Discipline	Music	65	3
								Home	Public Perf	Class	Instr / vocal	Instr / vocal			
48	F	18-34	7	Dip	HND	32.8	36	SM: Thoroughness	SM: Perseverance	TW: Role in bigger	OS: Chunking	SM: Concentration	Music equal	62	3
								Instr / vocal	Instr / vocal	Group	Instr / vocal	Instr / vocal			
49	M	35-49	5	8		29.0	40	SM: Discipline	SE: Self confidence	SM: Concentration	TW: Role in bigger	SM: High standards	Music equal	66	3
								Instr / vocal	Group	Group	Group	Instr / vocal			
50	M	35-49	7	7	G/O	3.5	31	SE: Self confidence	TW: Common goal	TW: Resp & respect	SM: Concentration	OS: Chunking	Music equal	67	4
								Public Perf	Instr / vocal	Group	Group	Instr / vocal			
51	F	35-49	4	Dip	AS	31.5	33	OS: Chunking	SE: Balanced view	TW: Role in bigger	TW: Common goal	SM: Thoroughness	Music	61	4
								Instr / vocal	Group	Group	Group	Instr / vocal			
52	M	35-49	7	5			25	SE: Spiritual	SM: Thoroughness	SM: Perseverance	SM: Discipline	OS: Sense of overall	Mixed	61	3
								Home	Home	Instr / vocal	Instr / vocal	Home			
54	F	35-49	6	8		13.0	28	SM: Resilience	SM: Creativity	SM: Emotion	SM: Analytical	SE: Spiritual	Other	56	5
								Public Perf	Instr / vocal	Instr / vocal	Instr / vocal	Home			
60	M	18-34	7	7		31.5	31	SM: Discipline	IP: Listening skills	SM: Perseverance	SM: Concentration	SM: Thoroughness	Mixed	63	4
								Instr / vocal	Class	Instr / vocal	Public Perf	Public Perf			
63	F	18-34	5	8	Deg	16.8	38	SM: Discipline	TW: Cooperating	SM: Thoroughness	SE: Self confidence	OS: Directing others	Music	58	6
								Instr / vocal	Group	Class	Public Perf	Group			
64	F	50-64	6	3	G/O	4.5	35	OS: Event mgt	OS: Meetings	TW: Resp & respect	TW: Cooperating	SM: Perseverance	Music equal	70	5
								Public Perf	Group	Public Perf	Public Perf	Public Perf			
65	M	18-34	7	8		6.5	37	SM: Discipline	SM: Foundations	SM: Creativity	SE: Self-worth	SM: Resilience	Sports	64	1
								Instr / vocal	Instr / vocal	Home	Group	Instr / vocal			
66	F	35-49	6	5	G/O	12.5	34	SE: Conf. in public	TW: Common goal	SE: Self confidence	SM: Perseverance	TW: Resp & respect	Music equal	70	3
								Public Perf	Public Perf	Instr / vocal	Instr / vocal	Group			
67	F	35-49	6	US	AS	13.8	33	SE: Self confidence	SE: Conf. in public	SM: Foundations	TW: Role in bigger	SM: Resilience	Music equal	62	3
								Group	Public Perf	Instr / vocal	Group	Public Perf			
68	M	35-49	11	6		16.0	39	SM: Thoroughness	SM: High standards	SM: Foundations	SE: Self confidence	SE: Spiritual	Other	68	2
								Instr / vocal	Instr / vocal	Instr / vocal	Instr / vocal	Group			
69	F	35-49	5	5		5.5	27	SE: Spiritual	SM: Discipline	SM: Emotion	SM: Perseverance	SM: Creativity	(Music)	73	6
								Home	Home	Home	Instr / vocal	Home			
70	F	18-34	7	3		16.5	27						Other	38	2
72	F	18-34	6	5		31.5	48	SE: Self confidence	SM: Discipline	SE: Conf. in public	IP: Listening skills	SM: Resilience	Other	74	3
								Public Perf	Home	Public Perf	Class	Public Perf			
73	F	50-64	7	5		14.5	31	SM: Discipline	TW: Common goal	SM: Perseverance	SE: Spiritual	SM: Concentration	Mixed	71	3
								Instr / vocal	Public Perf	Instr / vocal	Class	Group			
77	F	50-64	6	5		4.0	30	SE: Spiritual	IP: Listening skills	SM: Creativity				65	3
								Home	Class	Class					
83	F	18-34	6	5		14.5	21	SE: Conf. public	TW: Resp & respect	SM: Creativity	SE: Spiritual	SE: Balanced view	(Music)	69	4
								Public Perf	Group	Group	Group	Instr / vocal			
85	F	18-34	7	8	Deg	10.5	45	OS: Event mgt	SM: Thoroughness	SM: Analytical	SE: Confi. in public	SM: Creativity	Music equal	67	3
								Group	Class	Class	Public Perf	Class			
87	F	50-64	10	n/a			19						Other	41	1
88	F	50-64	7	6		26.0	32	SM: Discipline	SM: Concentration	TW: Resp & respect	TW: Cooperating	SE: Spiritual	Music equal	68	4
								Instr / vocal	Instr / vocal	Public Perf	Group	Group			
89	M	65+	9	2		8.3	19	SM: Foundations	SM: High standards	IP: Feedback	SM: Discipline	SE: Conf. in public	Music equal	71	5
								Group	Public Perf	Group	Group	Public Perf			
92	F	50-64	9	5		19.5	27	SM: Emotion	IP: Openness	IP: Cultural diff	SM: Foundations		Music equal	68	3
								Class	Group	Class	Class				

KEY: M= male; F=female. Dip=Diploma. G/O= GCSE or O level; Deg=Degree