

ECONOMIC AND SOCIAL RESEARCH COUNCIL

Teaching and Learning Research Programme

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TITLE
Investigating Musical Performance [IMP]: Comparative Studies in Advanced Musical Learning
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Research Report

Background

The *Investigating Musical Performance [IMP]: Comparative Studies in Advanced Musical Learning* (2006-2008) was devised as a two-year comparative study to investigate how Western classical, popular, jazz and Scottish traditional musicians deepen and develop their learning about performance in undergraduate, postgraduate and wider music community contexts¹.

The context for the research drew on issues arising from the recent expansion in the range of undergraduate courses for music, as well as findings from previous literature². In particular:

- There are now a wide number of opportunities to study music at a higher education

¹ The project's resultant evidence base contains data that is complementary to the separate Royal College of Music based longitudinal TLRP study of Western classical music, *Learning to Perform*. Common topic areas include findings on transition, the nature of musical expertise, learning with others and the role of teaching in learning.

² Details of the references are to be found in Annex 1.

level in the UK, embracing courses in n=188 HE/FE institutions (PALATINE, 2008). These currently cater for 25,560 musicians (HESA, 2008), of whom 3:4 (74%) are undergraduates. A varied range of courses is on offer, such as exemplified across the n=9 specialist HE music colleges/conservatoires that offer programmes of study in Western classical, jazz, popular and traditional musics, as well as other music-related studies in topics such as music technology and musical theatre.

- Across the world, many different musics and ‘musical worlds’ co-exist, suggesting that musicians across these varied genres are likely to have a diverse range of experiences (Green, 2001; O’Neill & Green, 2004; Walker 2007).
- However, most theories of professional musician’s development have been based on the researched experiences of Western classical musicians (e.g. Bloom, 1985; Sosniak, 1985, 1990; Manturzewska, 1990; Ericsson and Smith, 1991).
- Much less is known about the musical development and learning of musicians in other-than-classical musical genres, such as pop, jazz and folk (Sloboda, 2000).

The *IMP* research was underpinned by theoretical strands and related constructs that clustered under three broad headings: (i) developmental theories (generic and specific to music) (e.g. Bronfenbrenner & Ceci, 1994; Hargreaves *et al*, 2002; Welch, 2006); (ii) activity and processes that were framed by membership of social groups (Engeström, 2001; Nielsen, 2006; Welch, 2007); and (iii) learning (generic and specific to music; generic and specific to higher education) (e.g. BERA Music Education Review Group, 2004; Eraut, 2004; Entwistle, 2007).

(i) Developmental theories (generic and specific to music)

A basic tenet underlying the *IMP* research is that musical learning involves development, both in relation to neuropsychobiological design (the hard-wired integration of nervous, endocrine and immune systems) and biography of the human individual (e.g. Pert, 1986; 1998; Thurman, 2000; Welch, 2001), and also as shaped by interaction within an interrelated, socio-ecologically nested system (e.g. Bronfenbrenner, 1979, 2005; Welch, 2006). As humans, we find subjective meaning and pleasure in the patterned organization of sound and silence that we label as “music” and we are capable of exhibiting a wide range of musical behaviors, whether as producers or receivers (*cf* Zatorre & Peretz, 2001; BERA Music Education Review Group, 2001; Peretz & Zatorre, 2003). Musicality is not an option; it is

part of our human design (e.g., Koelsch, Gunter, Friederici, & Schröger, 2000; Avanzini *et al*, 2005), whether there is normal neuropsychobiological functioning or extreme functional disorder, such as within profound and multiple learning disabilities (Ockelford *et al*, 2002; Welch *et al*, in press).

Musical behaviors do not occur in a vacuum. They are the product of a complex interaction between biological, developmental, and environmental factors over time. The nature of this interaction is not uniform across the species because of relative differences and biases arising from the interface and shaping of our basic neuropsychobiology by experience, sociocultural imperatives and maturational processes (Altenmüller, 2004). As a result, *particular* musical behaviors may be more or less developed. Consequently, we are likely to exhibit a musical profile that is both relatively *unique* and peculiar to the individual, while having some commonality with others of a similar sociocultural background, age and experience (Welch, 2006).

(ii) Activity that is framed by being membership of social groups

One of the features of virtually all contemporary cultures is the wide diversity of musics that are practised and enjoyed by different groups within the local populations. The ubiquity and diversity of musical behaviour – of our ability to find meaning in the organisation of sound – appears to be characteristic of the human condition (e.g. Cross, 2005). Educational and psychological research suggests a symbiotic link between musical learning and the formation of musical identities (the role of music in defining who we are – ‘music in identity’, as well as the nature of our individual relationships with certain kinds of music – ‘identity in music’ (Hargreaves, *et al*, 2002)). Both musical learning and identity are shaped by developmental experiences in various socio-cultural contexts across the lifespan (*cf* Welch, 2006; 2007).

The contextual layers that frame musical development embrace a process in which musical behaviours (whether as consumer or producer) are mediated by, and inform, social activity, whether in the home (Trevarthen, 2002; McPherson & Davidson, 2002), nursery school (Young, 2002), secondary school (Spence, 2006) or in the urban environment (*cf* Krims, 2007).

(iii) Learning (generic and specific to music; generic and specific to higher education)

A substantial body of empirical evidence suggests that, from the earliest months of life, the acquisition of musical expertise is influenced by an interactive process between neuropsychobiological potential, enculturation and specific sonic and musical experiences (for comprehensive reviews, see Hallam, 2006, pp. 29-43, Welch, 2006, McPherson, 2006). Feltovich, Prietula and Ericsson (2006) argue that the development of expertise depends on obtaining extensive skills, as well as appropriate knowledge and mechanisms that monitor and control cognitive processes in order to be able to perform a set of tasks both efficiently and effectively. Expertise development theories (e.g. Ericsson, 1996), tends to have been based on the expertise development of classical³ musicians and suggest that (i) expertise encompasses a process of development that normally spans many years; (ii) that formal instruction, practice and parental support are very important for expertise development and (iii) the longer a person engages in musical activities, the more expert they are likely to become as performers, assuming that they pass through a series of developmental phases successfully.

Research in higher education suggests that a relationship exists between students' approaches to learning and perceptions of the learning environment (e.g. Ramsden and Entwistle 1981; Entwistle & Ramsden 1983; Trigwell & Prosser 1991). Lizzio, Wilson and Simons (2002) argue that positive perceptions of the teaching environment directly influence academic achievement, as well as qualitative learning outcomes. More recently, Entwistle (2007) conceptualised higher education learning as an interactive system, within which the quality of learning achieved is seen as being the product of interactions between (a) students' backgrounds, abilities, conceptions, knowledge and aspirations, (b) approaches to learning and studying and (c) perceptions of the teaching-learning environment.

Despite the evidence for an inter-relationship between perceptions of the learning environment and approaches to (and quality of) learning, relevant research in the domain of music education has been limited. Kingsbury (1988) and Roberts (1991) have demonstrated the importance of the prevailing values in higher education music institutions for what and how students learn. More recently, Jørgensen (2000) discussed the relationship between

³ The Merriam-Webster Online Dictionary (2005) defines classical music as "of, relating to, or being music in the educated European tradition that includes such forms as art song, chamber music, opera, and symphony as distinguished from folk or popular music or jazz."

institution and educational outcomes and emphasised that outcomes such as independence and responsibility should be seen as institutional responsibilities rather than solely student or teacher-led duties.

In conclusion, within the plurality of the world's musics, many different musical genres co-exist.⁴ However, most research conducted in the area of musical expertise development to date is within the Western classical tradition, although there is some evidence that that jazz musicians are likely to begin their training at a later age compared to classical musicians (Gruber, Degner and Lehmann, 2004).

Accordingly, the *IMP* project has focused on musical learning within and across four musical genres, both within higher education and also beyond in professional performance career contexts. *IMP* was conceived as a multi-site, multi-methods research project that drew equally on the strengths and expertise of the four partner higher education institutions (HEIs), namely the Institute of Education, London; Royal Scottish Academy of Music and Drama, Glasgow; Leeds College of Music and the University of York. Each of the HEIs had significant experience in the education of undergraduate and/or postgraduate musicians in at least two of the four focus musical genres.

Objectives

The aim of the project was to investigate how classical, popular and jazz musicians and performers of Scottish traditional music deepen and develop their learning about performance in undergraduate, postgraduate and wider music community contexts.

Six research questions underpinned the research:

1. How do classical, popular and jazz musicians and performers of Scottish traditional music deepen and develop their learning about performance in undergraduate, postgraduate and wider music community contexts?
2. Does this learning (knowledge, skills and understanding) change over time during their studies and, if so, how and why?
3. Does this learning change post graduation and, if so, how and why?

⁴ One ethnomusicological study of South Asian music in the UK, for example, found forty-five different types of music being practiced, related to classical and popular music traditions, and interfaced with particular geographical locations, communities, languages and generations (Farrell *et al*, 2005).

4. In what ways do professional performers (students and tutors) report that their performance is affected through any experience that they might have of teaching?
5. What are the strengths and weaknesses of current learning to perform practices?
6. What can the data say about the theory of how expertise develops within, as well as beyond, music?

Methods

The project followed a multi-methods approach, embracing quantitative and qualitative data collection and analyses. An innovative, web-based, Portable Document Format (PDF) survey instrument was designed, which allowed data from participants at remote sites to be sent automatically to a central server for collation. The 623-field online survey instrument was piloted and refined in preparation for the main data collection. The contents of the questionnaire survey had 57 questions that embraced a wide range of perspectives on musical performance that built on diverse literature sources, and included:

- (a) Musical biographies (e.g. variables related to the effects of age, sex, musical genre, instrumental type, experience);
- (b) Psychological and social-psychological issues related to performance (e.g. performance anxiety, self-esteem, self-efficacy, musical identity, and the development of expertise), including an application of aspects of expertise theory and self-theories; and
- (c) Attitudes to learning (e.g. practice behaviours, views on teaching – ideal versus personal experience) and the social and environmental contexts for learning.

Respondents to Survey 1 were 244 musicians, who included 170 undergraduates (70% of participants) and 74 portfolio career musicians, self-reported as following an active performing and teaching career (30% of participants). 55% of the participants were male and 45% were female. Just under half (48%) of participants had a Western classical music background. These were complemented by musicians whose expertise was in popular (27%), jazz (18%) and Scottish traditional (7%) musics.

Respondents to Survey 2 (approximately twelve months after) were 87 musicians from Survey 1. These included 59 undergraduates (68% of participants) and 28 portfolio career musicians (32% of participants). 53% of the participants were male and 47% were female. All survey data were analysed using SPSS.

In addition, in-depth information was obtained from semi-structured interviews with 27 selected case studies. These specialised in a wide range of instruments, including strings, woodwind, brass, piano/keyboard, voice, bass guitar, percussion, Scottish pipes and clarsach. Case study participants were selected on the basis of ensuring a representative range of experiences and backgrounds from those who had completed the questionnaire survey. The interviews focused on a range of issues related to each musician's personal development and experiences. Questions were clustered under overarching themes that embraced early influences on their musical development, self-efficacy and confidence as performers, reflections on performance experiences, the occurrence and possible influence of performance anxiety, the influence of the institution on learning, their thoughts on the process of transition from student to professional, any experiences of teaching and, finally, their experiences and views regarding formal and informal learning in music. Resultant data were analysed using NVivo. Complementary data were also obtained from focus groups (n=8), participant email diaries and digital video analyses of studio-based HEI instrumental lessons (n=9). All data collection activities were subject to ethical approval in line with guidance from the British Educational Research Association (BERA, 2004 – see Annex 3).

Results

Main findings have been clustered under two themes⁵ below and include:

- (i) **The effects of group membership concerning musical genre, gender and professional status**
 - *Both diversity and commonality and across musical genres were evidenced* (Creech et al., 2008[a]; Welch et al., 2008[b]; Welch et al. under review). For example, classical musicians emphasized the drive to excel musically and technically and prioritized notation-based and analytical skills, whilst other-than-classical musicians attached greater importance to memorisation and improvisation. Classical musicians attached greater relevance to giving lessons and solo performances, whilst their other-than-classical

⁵ Three overarching research areas had emerged from the literature surveys (see above), namely, developmental theories (generic and specific to music); activity and processes that were framed by membership of social groups; and learning. Because of the necessary constraints on text length in this report, the synthesised findings have been incorporated under two headings: (i) group membership and (ii) development and learning.

colleagues favoured making music for fun and listening to music within their own genre. Nevertheless, all musicians believed practice and preparation were important.

- *The evidence suggests significantly different developmental profiles for classical and other-than-classical musicians* (Creech et al., 2008[a]). Classical musicians tended to have begun to engage with music at an earlier age and were influenced musically by parents, instrumental or vocal teachers and formal groups. Conversely, other-than-classical musicians tended to be slightly older in their formative musical encounters and reported that, typically, they were most influenced by well-known performers and informal groups.
- *Differences were also evidenced in self-concepts: (i) Classical musicians were found to rate themselves higher in terms of their performance skills and quality* (Papageorgi et al. in press); *(ii) Other-than-classical musicians also had lower self-efficacy than classical musicians* (Welch et al. 2008[a]); *(iii) Other-than-classical musicians had idealised views of expertise that related to individual ‘stars’ (well-known performers) in their chosen genre* (Creech et al., 2008[a]). When individual classical musicians discussed the playing of established figures, their comments focused on particular features of the performance behaviours rather than the other-than-classical view of feeling a need to emulate the complete individual style.
- *In terms of gender, male musicians attributed higher significance to the drive to excel musically in terms of achieving success. In contrast, female musicians attributed higher importance to coping skills, even though they rated their own coping skills significantly lower than male participants.* (Papageorgi et al., in press). This may relate to why female musicians experienced higher levels of musical performance anxiety (see below).
- *Female musicians had significantly higher self-regulation skills in their approach to instrumental learning* (Welch et al., 2008[a]). Participant female musicians reported more frequent use of self-regulation during performance preparation⁶.

⁶ These findings corroborate previous research that female musicians tend to adopt learning strategies more extensively compared to males - see Bråten & Olaussen, 2000; Pajares, 2002; Zimmerman & Martinez-Pons,

- *Musicians' 'ideal' and self-assessed levels of musical skills and expertise are closely related to gender, genre and professional experience. Female, classical and undergraduate musicians reported a larger gap between their 'ideal' and personal musical skill levels (Papageorgi, et al., in press; Papageorgi, Creech & Welch 2008). For example: (i) female, classical and undergraduate musicians tend to be less confident and more at risk of having negative performance experiences and suffering from performance anxiety; (ii) female and other-than-classical musicians appear to be more susceptible to having high expectations and lower confidence as professional performers; (iii) whilst undergraduate musicians' responses indicated that they had not yet achieved their ideal level of expertise, portfolio career musicians believed that they had already achieved and surpassed their ideal level, perhaps even appearing overly confident, or that the 'ideal' was some form of 'average' that they individually had surpassed⁷.*
- *Gender and genre impacted separately on aspects of participants' psychological and socio-psychological make-up and in their attitudes to learning. There was no evidence statistically or qualitatively of any major interaction between these two group variables (Welch, et al., 2008[a]). This finding suggests that, in our data at least, genre and gender act as independent factors in influencing musicians' self-perceptions and attitudes towards music learning and teaching in Higher Education.*
- *All musicians, irrespective of genre and gender, had a very strong musical identity, with their 'musician self' forming a core component of their overall sense of identity (Welch et al., 2008[a]). This was a key positive finding from the study, signifying a shared deep love for music and a common motivation towards being successful.*

1990.

⁷ Similarly, researches in the domains of expert chess playing, physics and music have reported that experts can often miscalibrate their capabilities by being overly confident – see Chi, 2006.

(ii) Development and Learning

- *Regardless of genre, musicians considered practical activities such as practising, rehearsing, taking lessons and giving performances to be relevant to their development* (Creech, et al., 2008). Nevertheless, other-than-classical musicians attached more relevance to extra-curricular, non-musical activities (such as networking, organizing and acquiring general musical knowledge). Furthermore, other-than-classical musicians considered making music for fun and listening to music within their own genre to be more relevant than their classical peers. In contrast, classical musicians attached greater relevance to more ‘serious’ musical activities where they took individual responsibility (such as giving lessons and solo performances and engaging in mental rehearsal).
- *Mental rehearsal was the least-preferred musical activity. Although some respondents rated mental rehearsal very highly, others appeared to use it only rarely or were unaware of its potential role in learning* (Haddon, 2007; Haddon, under review). Musical imagery had multiple applications for those that used it. At York, for example, staff used imagery to a greater extent than students for composition and for general understanding of music, including memorisation, and were more likely to have consciously developed its use. Some staff had developed their imagery as a consequence of physical injury and it may be that shorter playing hours for these staff were compensated for by a greater use of imagery. Students used imagery to a greater degree than staff for rehearsing physical movements and for visualisation of a successful performance.
- *Although they had no formal preparation for the role, a significant proportion of undergraduates (averaging 32%) and most graduate/portfolio musicians (average 81%) regularly gave instrumental or vocal lessons, particularly if they studied classical music* (Papageorgi & Creech, 2006; Haddon, 2009). For example, a survey of final-year music students at the University of York found that 45% (23 of the 51 students in the year group) regularly gave instrumental or vocal lessons. Semi-structured interviews with sixteen students revealed a range of teaching activities including workshop leading, one-to-one

lessons and group teaching. However, students learned to teach through experience rather than formal training. They reported benefits to their own learning and performing.

- *As might be expected, (a) performance specific self-efficacy and (b) perceptions of personal expertise increased with age and experience* (Papageorgi et al., in press). Portfolio musicians, overall, rated their performance skills and quality higher compared to undergraduates. As musicians mature, they develop and gain more experience professionally, their internal standards of what constitutes an effective musician becomes elevated, but – at the same time – they also appear to be more confident and develop musically, as they rate themselves higher in key musical skills⁸.
- *Musical performance anxiety (MPA) is a common experience amongst all performing musicians, especially in solo and small group contexts. Female and Western classical performers report higher distress levels. MPA level tends to be higher immediately prior to a performance, but reduces once it begins. The impacts of MPA relate to its perceived severity during performance but are mediated by musicians' performance experience, their susceptibility to anxiety and their coping strategies* (Papageorgi, 2007; Papageorgi, 2008; Papageorgi et al.[a], under review). The data suggest that strategies for coping with the demands of performance are often person- and performance specific, because individuals' performance anxiety thresholds vary within different performance contexts. Experiencing MPA is normal – what matters is how individuals learn to deal with it and the role of peers/tutors/colleagues/course designers in the support process. (For example, techniques focusing on modifying people's perceptions and facilitating a positive mindset, such as cognitive behavioural therapy and neuro-linguistic programming, can be particularly useful for musicians.)
- *Over time, musicians become more realistic about their ability to achieve 'ideal' musical skills* (Papageorgi, Creech, & Welch 2008). This positive outcome was evidenced as an observed gap between musicians' 'ideal' and 'perceived' level of skill (Papageorgi et

⁸ The latter finding is in line with existing theories of expertise development, e.g. Bloom, 1985; Sosniak, 1985, 1990; Manturzewska, 1990; Ericsson and Smith, 1991, Ericsson, 1996.

al., in press) decreased over time, potentially due to them gaining more experience and perhaps more realism about what is possible 'ideally'. Additionally, as undergraduate musicians came towards the end of their studies, their attitudes seem to converge with those of established professionals (no differences found) as, in Survey 1, undergraduates had evidenced a significantly larger gap between 'ideal' and 'perceived' skills compared to portfolio musicians.

- *Amongst the undergraduates, there were few changes in musical self-efficacy and perceived relevance, effort required and pleasure experienced in musical activities over a twelve-month period, other than less effort being reported for successful engagement in musical activities* (Creech, Papageorgi & Welch, 2008[a]). Finding pleasure in musical activities was linked strongly to musical-self efficacy across undergraduates.
- *For undergraduates, the experience of engaging in many and varied performances, alongside support for developing self-discipline and autonomy, as well as belonging to strong multi-genre peer networks and continued mentoring post-graduation, facilitate the critical transition into a professional career* (Creech et al., 2008[b]). Transition is a process that offers difficult challenges, but has the potential to be facilitated by investing in the development of musical versatility and organisational skills, nurturing specific personality characteristics, and providing the context in which a strong and enduring community of practice may evolve. Findings suggests that higher education music institutions can assist their students throughout the transition process by exploring the potential for cross-genre peer networks and prioritising the importance of mentoring and fostering a versatile musical self-image for performance students.
- *The prevailing institutional culture relates to students' approaches to learning and performance* (Papageorgi et al.[b], under review). Differences across the three participating undergraduate institutions (Leeds College of Music, University of York and Royal Scottish Academy of Music and Drama) were observed in (a) students' self-assessment, (b) perceived control over musical skills, (c) perceived relevance and pleasure obtained from engagement with musical activities and (d) experience of

performance anxiety (whilst statistically controlling for possible gender and musical genre effects)⁹.

- *Literal, pedagogical and informal ‘spaces of learning’ were identified within the HEI environment (such as at the Royal Scottish Academy of Music and Drama) (Morton et al., ms submitted for publication). Literal spaces were critical in what, and with whom, students learnt; pedagogical style determined relative boundaries and restrictions placed on the learning ‘map’; informal spaces supported group music making and enabled students to listen to their fellow students playing, to be creative in arranging music, learn ‘by ear’ and play in diverse social contexts.*
- *Students report that an ideal institutional culture is inspirational, promotes a positive learning environment, facilitates academic, professional and personal development and fosters a supportive community of learning, whilst allowing the development and pursuit of personal interests (Papageorgi et al.[b], under review; De Bézenac & Swindells, under review)¹⁰.*

In general, seven overarching findings are evident in the above examples (Welch & Papageorgi, 2008):

- 1) ‘Other-than-classical’ musicians (popular, jazz and Scottish traditional) tend to exhibit significant homogeneity in many aspects of their developmental biographies, attitudes and practices towards advanced musical learning.
- 2) In contrast, their Western classical peers tend to have a different biographical profile.
- 3) Musician gender is also important in attitudes and approaches to advanced music learning, as male and female musicians often exhibit group differences. These cut across musical genres.

⁹ This is in line with research in other higher education settings suggesting that perceptions of the learning environment influence students’ approaches to studying – see Lizzio, Wilson & Simons, 2002.

¹⁰ This corroborates findings from other studies that state that generic academic and workplace skills are perceived to be best developed in learning environments characterised by good teaching and independence – see Lizzio, Wilson & Simons, 2002.

- 4) Musical self-efficacy and perceptions of expertise are likely to increase with experience across a performance career, particularly in a portfolio career context that combines performing and teaching.
- 5) Musicians' 'ideal' and self-assessed levels of musical skills and expertise are closely related to gender, genre and professional experience; female, classical and undergraduate musicians often appear to be less confident.
- 6) All musicians, irrespective of preferred genre, attribute high importance to their 'musician self' as a core component of their identity, signifying a shared deep love for music and a common motivation towards being successful.
- 7) An ideal institutional culture is perceived to be inspirational, to promote a positive learning environment, facilitate academic, professional and personal development and to foster a supportive community of learning, whilst allowing the development and pursuit of personal interests.

The *IMP* data suggest that there is an empirically based argument for curricular innovation that seeks to promote multi-genre musical expertise and rounded performance excellence. Arguably, such an approach would (a) provide a foundation for achieving a more creative and fruitful symbiosis between diverse musical understandings, (b) support greater collaboration between musicians of different communities and educational backgrounds and (c) ensure that any potential interferences to learning and development that arise from the inherent characteristics of a particular group membership (such from musical genre or gender) were systematically addressed. As such, HE/FE music departments should aim to promote a more holistic view of what constitutes a musician and provide many and varied opportunities for different kinds of performance engagement and cross-genre collaborations. They should also encourage teaching staff to be active, accessible and encourage students to network and build professional contacts, thus supporting their students' transition into a professional career. Learners should be encouraged to appreciate the value of, and be open to, cross-genre collaborations. They should also take initiatives to form and work in small groups, as well as to seek and offer peer support in coping with the challenges of performance.

Activities

Presentations of the IMP project findings (n = 31 up to March 2009) have been given at national and international conferences in the fields of Higher Education, Music Education and Psychology of Music, including keynotes in the UK, Finland, Hong Kong and Italy. Details of all conference presentations in chronological order from July 2006 to March 2009 can be found in Annex 2.

Outputs

To date, we have produced an extensive collection of academic outputs, including 14 academic publications in international scholarly journals and peer-reviewed conference proceedings, 2 Teaching and Learning *Research Briefings* and a draft book proposal.

1. Haddon, E. (2007). What does mental imagery mean to university music students and their professors? *Proceedings of the International Symposium on Performance Science (ISPS)* (pp. 301-306), Porto, Portugal, November 2007.
2. Papageorgi, I. (2007). The influence of the wider context of learning, gender, age and individual differences on adolescent musicians' performance anxiety. *Proceedings of the International Symposium on Performance Science (ISPS)* (pp. 219-224), Porto, Portugal, November 2007.
3. Welch, G. F., Papageorgi, I., Haddon, E., Creech, A., Morton, F., de Bézenac, C., Duffy, C., Potter, J., Whyton, T., & Himonides, E. (2008[a]). Musical genre and gender as factors in Higher Education learning in music. *Research Papers in Education*, 23(2), 203-217.
4. Creech, A., Papageorgi, I., Duffy, C., Morton, F., Haddon, E., Potter, J., de Bezenac, C., Whyton, T., Himonides, E., & Welch, G. F. (2008[a]). Investigating musical performance: Commonality and diversity amongst classical and non-classical musicians. *Music Education Research*, 10(2), 215-234.
5. Welch, G., Purves, R., Papageorgi, I., Creech, A., Himonides, E., Duffy, C., Morton, F., Potter, J., Haddon, E., Whyton, T., & de Bézenac, C. (2008[b]). Musical genres, 'school music' and advanced musical learning in higher education and beyond. In S. Malbrán & G. Mota (eds), *Proceedings of the 22nd International Seminar on Research in Music Education*, (pp. 105-114). Porto, Portugal, July 2008.
6. Papageorgi, I. (2008). Investigating Musical Performance: Performance anxiety across musical genres. *TLRP: Teaching and Learning Research Briefing*, November, 2008.

7. Haddon, E. (2009). Instrumental and Vocal Teaching: How do music students learn to teach? *British Journal of Music Education*, 26(1), 1-15.
8. Creech, A., Papageorgi, I., Duffy, C., Morton, F., Haddon, E., Potter, J., de Bézenac, C., Whyton, T., Himonides, E., & Welch, G.F. (2008[b]). From music student to professional: The process of transition. *British Journal of Music Education*, 25(3), 315-331.
9. Papageorgi, I., Creech, A., Duffy, C., Potter, J., Whyton, T., Morton, F., Haddon, E., de Bezenac, C., Himonides, E., & Welch, G. F. (in press). Perceptions and predictions of expertise in advanced musical learners. *Psychology of Music*.
10. Morton, F., Duffy, C., Haddon, E., Potter, J., de Bézenac, C., Bates, A., Creech, A., Papageorgi, I., Welch, G., & Whyton, T. *Spaces of learning and the place of the conservatoire in Scottish Music: a case study of the Royal Scottish Academy of Music and Drama*. Ms submitted for publication.
11. Papageorgi, I., Creech, A. Haddon, E., Morton, F., de Bézenac, C., Himonides, E., Potter, J., Duffy, C., Whyton, T., & Welch, G.F. (under review[a]). An investigation into performance anxiety experiences of advanced musicians specialising in different musical genres. *Music Perception*.
12. Papageorgi, I., Haddon, E., Creech, A., Morton, F., de Bézenac, C., Himonides, E., Potter, J., Duffy, C., Whyton, T., & Welch, G.F. (under review[b]). Culture, Context and Learning: Inter-relationships between Perceptions of the Learning Environment and Undergraduate Musicians' Attitudes to Learning and Performance. *Music Education Research*.
13. Haddon, E. (under review). Mental imagery: its use in musical learning and performance by undergraduate music students, their lecturers and instrumental and vocal teachers. *Research Studies in Music Education*.
14. De Bézenac, C., & Swindells, R. (under review). No Pain, No Gain? Contextualising Enjoyment and Self-Regulation in Music Learning. *Journal of Education and the Arts*.
15. Welch, G., Purves, R., Papageorgi, I., Creech, A., Himonides, E., Duffy, C., Morton, F., Potter, J., Haddon, E., Whyton, T., & de Bézenac, C. (under review). Learning in music: musical identities, musical genres, 'school music' and advanced musical learning in higher education and beyond. *Research Studies in Music Education*.
16. Welch, G.F. & Papageorgi, I. (2008). Investigating Musical Performance: An overview of findings. *TLRP: Teaching and Learning Research Briefing*, November, 2008.
17. Papageorgi, I., Creech, A., & Welch, G.F. (Eds) (in preparation). *Investigating Musical Performance: Comparative Studies in Advanced Musical Learning*. Aldershot: Ashgate Press.

Impacts

The significant academic achievements of the *IMP* research are evidenced by 14 academic publications in international scholarly journals, 2 Teaching and Learning *Research Briefings*, 31 conference presentations and a draft book proposal. The research activity facilitated the early academic career development of all five Research Officers across the four HEIs and enabled social science methods to be applied (and interrogated) in performance arts contexts. The impact on HE teaching and learning policy and practice is ongoing. This includes invited staff development sessions for several UK HEIs and professional organisations.

Future research priorities

There are several applied research projects that could follow from the *IMP* research, including how HEIs might prepare musicians to manage performance anxiety, how to foster greater cross-genre course design that builds on particular strengths from the requirements of each genre in performance, and how to develop a more holistic HE music pedagogy.

Annex 1: References cited in the IMP Research Report

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Annex 2: IMP Conference papers in chronological order (July 2006 – March 2009)

1. Duffy, C., & Papageorgi, I. *Investigating Musical Performance: An introduction*. International Conference in Teaching, Learning and Performing Music, Royal Northern College of Music, Manchester, UK (1-2 July 2006).
2. Papageorgi, I., & Creech, A. *Investigating Musical Performance: A comparative investigation of classical and non-classical musicians' approach to teaching and learning*. ESRC TLRP Annual Conference, Glasgow, UK (20-22 November 2006).
3. Papageorgi, I., & Creech, A. *Investigating Musical Performance: A Comparative investigation of classical and non-classical musicians*. 5th International Research in Music Education (RIME) Annual Conference, University of Exeter, UK (10-14 April, 2007).
4. Welch, G.F. *Investigating Musical Performance: Comparative Studies in Advanced Musical Learning - Singers and other Instrumentalists*. Opening Keynote, 11th National Symposium on Music Research, University of Oulu, Finland (30 April 2007).
5. Welch, G.F. *Investigating musical behaviour and development in children and adults*. Invited specialist tutor, Italian Society for Music Education (SIEM), Bologna Research School, Italy (26-27 May 2007).
6. Duffy, C., & Morton, F. *Investigating Traditional Music Learning*. True North: Teaching the music of the Highlands and Islands in Higher Education Conference. Perth College (13-14 June 2007).
7. Welch, G. F. *Creativity and the Arts*. Invited Keynote. World Creativity Summit, Hong Kong Academy for the Performing Arts, Hong Kong, China (23-25 July 2007).
8. Welch, G. F. *Investigating Musical Performance: Initial findings from a major UK study*. Housewright Eminent Scholar presentation, Florida State University, Tallahassee, USA (29 October 2007).
9. Welch, G. F. *The challenge of becoming a new secondary school music teacher in England*. International Conference on Training Music Teachers. Padova, Italy (5-6 November 2007).
10. Haddon, L. *Concepts in Practice: What does mental musical imagery mean to university music students and their professors?* International Symposium on Performance Science: Theories, Methods and Applications in Music. Porto, Portugal (22-23 November 2007).
11. Papageorgi, I. *The influence of the wider context of learning, gender, age and individual differences on adolescent musicians' self-reported performance anxiety levels*. International Symposium on Performance Science: Theories, Methods and Applications in Music. Porto, Portugal, (22-23 November 2007).
12. Papageorgi, I. *Can we transform research knowledge to improve accessibility to practitioners and others?* ESRC TLRP Annual Conference, Glasgow, UK (26-27 November 2007)
13. Welch, G., & Papageorgi, I. *Musical genre and gender as factors in higher education learning in music*. Society for Research into Higher Education (SRHE) Annual Conference 2007. Brighton, UK (11-13 December 2007).
14. Creech, A. *From Undergraduate to professional musician: Supporting critical transitions*. Society for Research into Higher Education (SRHE) Annual Conference 2007. Brighton, UK (11-13 December 2007).
15. Papageorgi, I., & Haddon, E. *Culture and context: The influence of institutional culture on undergraduate musicians' attitudes to learning and performance*. Society for Education, Music

- and Psychology Research (SEMPRE) Empirical Musicology Conference. London, UK (2-3 April 2008).
16. Welch, G. F. *Teaching and learning music in Higher Education: Implications for policy and practice from the Investigating Musical Performance (IMP): Comparative Studies in Advanced Musical Learning TLRP project*. International symposium on Teaching, Learning and Assessment. Hong Kong Institute of Education, China (22-24 April 2008).
 17. Welch, G., Purves, R., Papageorgi, I., Creech, A., Himonides, E., Duffy, C., Morton, F., Potter, J., Haddon, E., Whyton, T., & de Bézenac, C. (2008). *Musical genres, 'school music' and advanced musical learning in higher education and beyond*. 22nd International Seminar on Research in Music Education. Porto, Portugal, (13-18 July 2008).
 18. Welch, G. F., Papageorgi, I., Creech, A., Potter, J., & Haddon, E. *Investigating Musical Performance: Teaching and Learning in Higher Education*. Symposium at International Society for Music Education (ISME) 2008 Conference. Bologna, Italy (20-25 July 2008).
 19. Welch, G. F., & Papageorgi, I. *Musical gender and gender as factors in higher education learning in music*. Symposium paper at International Society for Music Education (ISME) 2008 Conference. Bologna, Italy (20-25 July 2008).
 20. Papageorgi, I. *Perceptions and prediction of expertise in advanced musical learners*. Symposium paper at International Society for Music Education (ISME) 2008 Conference. Bologna, Italy (20-25 July 2008).
 21. Creech, A. *Possible selves: Mental representations of ideal musicians*. . Symposium paper at International Society for Music Education (ISME) 2008 Conference. Bologna, Italy (20-25 July 2008).
 22. Haddon, E. *Pedagogy in practice: how do music students learn to become instrumental and vocal teachers?* Symposium paper at International Society for Music Education (ISME) 2008 Conference. Bologna, Italy (20-25 July 2008).
 23. Potter, J., & Haddon, E. *Performance in progress: mind over music?* . Symposium paper at International Society for Music Education (ISME) 2008 Conference. Bologna, Italy (20-25 July 2008).
 24. Welch, G. F., Papageorgi, I., & Creech, A. *Investigating Musical Performance: Aspects of self in advanced musical learning across different musical genres*. Symposium at the 10th International Conference of Music Perception and Cognition (ICMPC10). Sapporo, Japan (25-29 August 2008).
 25. Welch, G., Papageorgi, I., & Creech, A. *Musical self, genre, and gender as factors in Higher Education learning in music*. Symposium paper at the 10th International Conference of Music Perception and Cognition (ICMPC10). Sapporo, Japan (25-29 August 2008).
 26. Papageorgi, I., Creech, A., & Welch, G. *Investigating Musical Performance: A longitudinal comparison of advanced musical learners' attitudes and perceptions towards musical skills*. Symposium paper at the 10th International Conference of Music Perception and Cognition (ICMPC10). Sapporo, Japan (25-29 August 2008).
 27. Creech, A., Papageorgi, I., & Welch, G. *Subjective values and musical self-efficacy: the relationship between musical self-efficacy and time, effort, perceived relevance and pleasure in musical activities amongst undergraduate music students*. Symposium paper at the 10th International Conference of Music Perception and Cognition (ICMPC10). Sapporo, Japan (25-29 August 2008).
 28. Barrett, M. *Eminence lessons: Eminent composers' perceptions of learning and teaching practices in music composition*. Symposium paper at the 10th International Conference of Music Perception and Cognition (ICMPC10). Sapporo, Japan (25-29 August 2008).

29. De Bézenac, C., & Swindells, R. *Music, motivation and autonomy: The role of enjoyment in internally and externally regulated music learning practices*. 2nd European Conference on Developmental Psychology of Music. Roehampton, UK (10-12 September 2008).
30. Papageorgi, I. *Perceptions and prediction of expertise in advanced musical learners*. British Psychological Society Education Section Annual Conference 2008. Milton Keynes, UK (31 October-2 November 2008).
31. Papageorgi, I. *A comparative investigation into the experience of performance anxiety by advanced instrumental performers specialising in different musical genres*. The Reflective Conservatoire: 2nd International Conference – Building Connections. London, UK (28 February-March 2009).

Annex 3: Ethical considerations

All research activities were designed and undertaken in line with the British Education Research Association's Guidelines (2004). The activities within each host institution were scrutinised by their local Ethics Committee (s) to ensure that best practice was being followed. The research team ensured that appropriate ethical procedures were followed throughout the research, including ensuring that participants had explicit guidance on the nature of the research activity, provide voluntary informed consent and have the right to withdraw at any point (see Annexes 3a and 3b below for the consent forms used for the survey and case study participants respectively). All data were anonymised in order to ensure that no individual could be identified.

BERA (2004). *Revised ethical guidelines for educational research*. Southwell, Notts: British Educational Research Association.

Annex 3a: Consent form for IMP Surveys 1 & 2

Learning, Teaching and Performing Questionnaire

In this questionnaire, you will be asked to respond to a series of questions and statements pertaining to your engagement with and beliefs about learning, teaching and performing music.

The questionnaire is divided into several sections. Please answer all questions in each section. If you are responding to this as part of a group, the researcher will be available to provide guidance.

Your responses will be used by the research team for research purposes only and so will be kept strictly confidential and stored securely. Neither your name nor any details that identify you personally will appear in reports, papers or articles arising from this research.

Please make sure that you press the **NEXT button on the form** in order to proceed to the next page. Please do not use any other form of page navigation.

Possible queries concerning this questionnaire can be directed to:

Graham Welch (Institute of Education; T: 020 7612 6740; E: g.welch@ioe.ac.uk)

For technical issues regarding this electronic instrument please contact:

Evangelos Himonides (Institute of Education; T: 020 7612 6599; E: evangelos@sonustech.com)

- I have read the above, and I understand that, if there is anything that is not clear, I can ask the researcher present for further clarification at any time.
- I would not mind being contacted for follow-up studies

Printed Name

Date (DD/MM/YYYY)

Investigating Musical Performance

Comparative Studies in
Advanced Musical Learning

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Annex 3b: Consent form for IMP case study participants

January 2007

Dear participant,

On behalf of the IMP research team, we would like to thank you for agreeing to participate in our project.

During the course of the next 6 months, we will be working with you to understand what it means to be a performer and how you learn to become one. We will be conducting a few interviews with you, observing and videoing some of your performances and / or instrumental lessons and also giving you some monthly email diaries to complete, where you will be able to record your experiences and any significant events that you think might influence (either positively or negatively) your development as a performer and musician.

We would like to take this opportunity to assure you that your real name will not be reported in any publications or presentations deriving from this study. Additionally, we would like to make clear that you have the right to withdraw from the study at any time if for any reason you feel uncomfortable or you feel it intervenes with your professional development.

With our best wishes,

The IMP Research Team

Declaration of consent to participate in the study

I have read and understood the above and agree to participate in the 'Investigating Musical Performance' project.

Name:.....

Signature:

Principal Investigator

Graham Welch

Co-Investigators

Celia Duffy

John Potter

Tony Whyton

Collaborating Institutions

Institute of Education, University of London

Royal Scottish Academy of Music & Drama

University of York

Leeds College of Music

