Article title: Performers' discourses on listening to recordings

Abstract

How we listen to music and respond to its media and contexts have changed significantly since the invention of sound recording. Today's musicians have countless opportunities to listen to others' interpretations given the vast availability of past and contemporary repertories through the global reach of recordings. This study investigated the extent to which the growing archive of recordings provides a valuable resource for performers' creativity. Although musical performance is a particularly porous domain for influence through either deliberate or spontaneous assimilation of expressive variation from other aural sources, little empirical research exists on influence in performance and specifically on the influence of recordings. Qualitative data were obtained via an online questionnaire to identify how and in what ways the use and influence of recordings has changed over the course of classical performers' training or professional careers. Respondents' (N = 130) comments were analysed using a thematic inductive approach. The emerging themes reveal an overall increased level of use of recordings now relative to the past, a largely positive contribution of recordings in shaping musical development, including the role of recordings in self-regulated learning, a largely positive attitude to the influence of others' interpretations, a means of developing expressions of self-identity in relation to others, and a route to acquiring a more critical and discerning mode of listening to recordings. Implications for music education are discussed in terms of how listening to recordings, in both formal and informal learning contexts, could support advanced musicians' learning through trial and error, enhance creative insight, strengthen self-efficacy, foster metacognitive skills, and nurture individuality.

Keywords

musical performance, recordings, influence, identity, self-regulated learning, creativity

INTRODUCTION

How we listen to music, and respond to its media and contexts, have changed significantly since the turn of the twentieth century and the invention of sound recording (Katz, 2004; Sterne, 2003; Bayley, 2010; Cook, Clarke, Leech-Wilkinson & Rink, 2009). Recordings nowadays provide a ubiquitous source of influence, owing to their wide circulation and easy access through digital dissemination and shared listening practices on social media and mobile platforms (Born, 2009, 2010; Bull, 2005; Flynn, 2016). A recording is, in many respects, an aural score conveying expressive information about a piece of music in terms of loudness, intensity, phrasing, articulation, or tempo above and beyond what is encoded in written notation (Cook, 2013; Leech-Wilkinson, 2012; Fabian, 2014, 2015). It is commonly accepted that listeners understand expressiveness in (auditory) relational terms by comparing, voluntarily or involuntarily, how the interpretation of a given piece varies from one performance to another (Fabian, Timmers, & Schubert, 2014, pp. xxi-xxii). The vast availability of past and contemporary repertories through the global reach of recordings, in formats ranging widely from CD or LP reissues to YouTube, podcasts and streamed playlists, means that today's musicians have countless opportunities to listen to others' interpretations. Yet, as Clarke (2012, p. 22) posits, "whether and how performers try to develop their own distinctive voice, and how they work with, or resist, the influence of others," remains to be more extensively investigated. The present study makes a contribution to this aim.

Influence remains a topical issue in the performance interpretation of classical music which places high demands on performers' creativity and originality (Alessandri, 2014; Clarke, 2012; Williamon, Thompson, Lisboa & Wiffen, 2006). Although classical music has traditionally been conceived as an artistic domain for individualistic, even genius-oriented, creation in both composition and performance, more recent psychological and educational research has shown that creativity and originality are not the sole attribute of an individual. Instead, creativity and originality can be located within the processes of practising, rehearsing, and performing, which involve collaboration and interaction with others (e.g., Gaunt & Westerlund, 2013; Rink, Gaunt & Williamon, 2017). Becoming an accomplished performer requires a long process of socialisation into

a musical tradition. Although sustained, deliberate practice is needed for the development of skilled performance behaviour (cf. Ericsson, Krampe & Tesch-Römer, 1993; Sloboda, Davidson, Howe & Moore, 1996; Deliège & Sloboda, 1996), the acquisition of expertise is also determined by a wide range of other social factors which shape an individual's learning experiences (Davidson, 1997; Hallam, 2006; McPherson & Zimmerman, 2011). For example, musicians are actively influenced by parents, teachers, and peers during their training. Musicians also use external resources to facilitate and self-regulate their own learning (McPherson & Zimmerman, 2011, p. 157).

Self-regulated learning refers to those activities whereby the individual takes personal responsibility for their acquisition of skills. Self-regulation arises from the interplay between personality traits, socialisation processes, and the learner's environment (McPherson & Zimmerman, 2011; Araújo, 2016; Varela, Abrami, & Upitis, 2016; Williamon, Clark & Küssner, 2017). As learners mature and become more autonomous, the effectiveness of self-regulation increases across all stages of learning, such as before, during and after the activity (Araújo, 2016; Papageorgi *et al.*, 2010). Listening to recordings can be implicated in any of the processes of self-regulation, which include forethought, executive strategies, evaluation, and metacognition (Williamon *et al.*, 2017, pp. 209-210). Listening to recordings can also be encountered in informal learning settings which can be just as valuable as formal training in enhancing skill development, such as grasp of pitch, rhythm and harmony, getting a 'feel' of the music through playing along to a record (Smart & Green, 2017, pp. 117-118), or encouraging experimentation and improvisation by ear in response to recordings (Varvarigou, 2017). Despite existing, although sparse, reports that advanced musicians often listen to others' recordings (Elverdam & Brock-Nannestad, 2008; Hallam, 1995; McPherson & Zimmerman, 2011, p. 157; Smart & Green, 2017), this topic has not received much scholarly attention.

Research in music education and the psychology and cognition of listening acknowledges listening as a creative act: "an active process of cognitive construction in which new sensory input is interpreted in the light of the perceiver's accumulated schemata or mental representations" (Hargreaves, Hargreaves, & North 2012, p. 160). When processing new interpretative information from listening to recordings a performer

may seek novelty through "a combinatorially different arrangement not previously encountered" (Clarke, 2012, p. 17). This process of creative "borrowing, transforming and recombining," stemming from listening to other aural sources and adapting material as appropriate, does not preclude the performer's creativity (e.g., Lisboa, Williamon, Zicari & Eiholzer, 2005) and can in fact be encountered in many different musical contexts from jazz improvisation to the realization of imitative textures composed in baroque music (e.g., Cook, 2012, pp. 456-457; Shevock, 2018; Varvarigou, 2017). Concerning classical music performance, this study investigates to what extent the growing archive of recordings provides a valuable resource for performers' creativity.

Influence in relation to (artistic) interpretation has been theorised from various perspectives with relevance for music. From literary criticism, Bloom's (1973) seminal study "The Anxiety of Influence" argues that artistic products are not self-contained entities but subject to the influence of other artists, since the past bears upon subsequent generations. Unlike Bloom's perspective on the legacy of the past as burdensome, the hermeneutic philosopher Gadamer (1989, pp. 301-306) posits that the process of interpretation is a fluid dialogue between the individual and other voices in culture. As a playful game of discovery, the legacy of the past potentially presents an inexhaustible source of possibilities of meaning. Gadamer's model applies aptly to the act of performance interpretation since this too can be likened to a dialogue, or game of discovery, between the individual performer and other voices in the performer's social milieu, including the encounter with recordings (Volioti, 2010; 2017).

Although musical performance is a particularly porous domain for influence processes, through either deliberate or spontaneous assimilation of expressive variation from other aural sources, little empirical research exists about influence in performance interpretation (Clarke, 2012, pp. 22-23). The social influence exerted by others on performers' musical learning and development has already been widely recognized (e.g., McPherson & Zimmerman, 2011; Davidson & McPherson, 2017). For example, in a large survey of 244 respondents, Creech *et al.* (2008) corroborated that important factors of influence for classical musicians included teachers, parents, peers and specific musical events, and for non-classical musicians factors also included the influence of well-known performers (p. 226). In another large study of 119 respondents, Collins (2011) examined

issues of musical influence and reported that although advanced musicians nurture, on the whole, a positive attitude towards influence (pp. 103 and 118), the sources of influence can change over time (p. 113). None of the above-mentioned studies, however, have considered specifically the influence of recordings on musicians' learning and the development of self-identity. Yet, recordings undoubtedly play a part in performers' musical acculturation, which involves learning through listening to others, reflecting on others' and one's own performance, developing a playing style, and broadening musical knowledge through both formal and informal learning opportunities. Since acculturation is grounded in discourse (oral or written evidence) and praxis (actions, habits and patterns of behaviour), musicians' verbal accounts of their learning strategies offer valuable insight into what they do and why. The present study draws from classical performers' discourses on listening to recordings, and examines what these reveal about their approaches to learning, their notions of influence and constructions of individuality.

METHOD

Materials and procedure

Qualitative data were obtained via an online survey which had three core aims: a) elucidate to what extent musicians listen to recordings during learning and practising; b) gather information about musicians' listening habits and preferences; and c) identify types of influence exerted by recordings. The online survey comprised: a series of questions to gather demographic data (Qs 1-7); a series of closed questions about general listening, practising and performing habits (Qs 8-13); and a series of evaluative structured questions scored on a likert-type scale (Qs 14-30) interspersed by two open questions (Q25 and Q30) which were intended to elicit further comments. Specifically, questions 14-27 addressed how often, at what stages of learning, and the reasons why musicians listen to recordings, what interpretative features they consider important, what aspects of their interpretation they are likely to change as a direct result of listening to recordings, and what factors affect their choice of recording. Questions 28-30 addressed the type of influence (positive or negative) exerted by recordings on musicians' practising and

performing habits. Since structured questions prompt a particular answer, in terms of choosing and scoring items from a given list, the two open questions were strategically inserted in between the closed questions and towards the end of the survey to allow participants to reflect and elaborate further on their experiences. (For full questionnaire, see Volioti & Williamon (2017)). Here, we focus our analysis on responses to the two open questions (Q25 and Q30).

Question 25 asked: Has your use of recordings as learning resources for performance changed over time (e.g., over the course of your musical studies and/or professional career)?

Question 30 asked: Has the influence of recordings changed for you over time, and in what ways?

Respondents

130 respondents (36 male and 94 female) commented in at least one of the two questions. Respondents are abbreviated by the prefix RES followed by a corresponding number from 1 to 130 (e.g., RES1, RES2, etc.). The mean age was 30.67 years (range = 17–69 years, SD = 14.28), with 83 respondents (63.8%) reporting British nationality. 84 were advanced music students at tertiary level undertaking Music Bachelor or Master's degrees at University or Conservatoire (23 male, 61 female; 60 undergraduates, 24 postgraduates; mean age = 22.87 years, SD = 6.99). 46 were professional musicians recruited via the same institutions as the students (13 male, 33 female; mean age = 44.91 years, SD = 13.18). The four largest specialisms were keyboard (n = 46), strings (n = 30), vocal studies (n = 23), and woodwind (n = 13). Smaller groups represented brass (n = 3), percussion (n = 2), conducting (n = 2), composition (n = 3), and "other" (n = 8, including popular, community and folk music genres). Since only 8 respondents (6.15%) specified non-classical music specialisms in "other," the participants in this study were primarily classical music performers. In respect of the above, the properties of this sample (n = 130) are broadly similar to those of the larger population (n = 204) that completed the entire survey (Volioti & Williamon, 2017).

All 130 respondents answered Q25. Of these, 10 reported "No" to this question implying no change in the type or level of use of recordings over the course of their musical studies or careers. The remaining 120 comments were analysed. For Q30, 70 respondents provided comments (20 male and 50 female; 28 undergraduates, 11 postgraduates, 31 professionals; mean age = 33.72, SD = 15.72). Of these, 15 responded "No" to this question suggesting no change over their musical studies or careers in the type of influence exerted by recordings. The remaining 55 comments were analysed.

Data treatment and analysis

Data were analysed using a thematic inductive approach in four steps (e.g., Braun & Clarke, 2006; Gioia, Corley & Hamilton, 2012). First, comments were read several times by the first author to ensure familiarity with the content. Second, data were coded with the software Quirkos (available from http://www.quirkos.com). Portions of text that conveyed a specific meaning were given an identifying label by the first author before being grouped into sub-themes. Gradually sub-themes were merged into broader themes in a bottom-up manner from the data. Given the relatively short length of comments, as is common with online surveys, an essentialist/realist approach was adopted. This assumes that respondents' replies articulate their experiences in a straight-forward way (Braun & Clarke, 2006, pp. 84-85). Text was coded at the semantic level focusing on the explicit meaning of the responses rather than attempting to decipher a deeper latent meaning. Third, while the analysis was still ongoing, codes were reviewed through mutual discussions within the research team to ensure consistency. Fourth, in order to overcome researcher bias, an external reviewer also crossed-checked the data structure in the later stages. In case of disagreement at any of these steps, the coding scheme was revisited and revised by cross-referencing with the raw data to arrive at consensual interpretations.

Each question (Q25 and Q30) was initially coded separately to identify putative differences or similarities in the emerging themes. Within a particular question (Q25 or Q30), a text comment could be coded more than once if its expressed concepts fitted appropriately into multiple themes and sub-themes (Braun & Clarke, 2006, p. 89). For example, if an answer relating to Q25 "has the use of recordings changed over time"

provided information about the mode of listening as well as the frequency of use of recordings, then the comment would be coded within each of these themes respectively ("mode of listening" and "overall use of recordings"). Multiple coding of this sort allows tracing possible thematic connections, which in turn could highlight how patterns of change in attitude or behaviour inter-relate. For example, increased use of recordings is accompanied by a more critical attitude to listening (see Results). Comments which were particularly brief or generic and did not specify any further sub-theme, have been counted only within the main theme to avoid forcing the data into too many sub-themes. Given both this decision and the multiple coding, the total frequency count of the sub-themes within a main theme does not always equal the frequency count of the main theme.

Broadly similar themes emerged from the separate analysis of Q25 and Q30, and we report the combined counts. Preliminary inspection of the qualitative data suggested that patterns of response were broadly similar for students and professionals (abbreviated ST and PRO). There were no stark differences in relation to specialism either. We are therefore collapsing these age, expertise and specialism groups together and report on musicians' listening experiences and perceptions of influence as a whole.

RESULTS AND DISCUSSION

In this section, each of the themes is presented via its constituent sub-themes. Due to space restrictions indicative quotations are provided for some rather than all of these sub-themes. Table 1 summarises the characteristics (status, specialism, age, and sex) of those respondents whose comments are supplied below. The number and status (ST or PRO) of participants that contributed to each theme and sub-theme are also reported in the text.

INSERT TABLE 1 ABOUT HERE

Five major themes emerged from the analysis (see Figure 1):

1. Overall use and importance of recordings,
2. Musical knowledge and development,
3. Type of use of recordings during learning,
4. Notions of influence and individuality,
5. Mode of listening.

INSERT FIGURE 1 ABOUT HERE

Overall use and importance of recordings

62 participants (34 ST, 28 PRO) reported how the "overall use and/or importance of recordings" has changed over time. 7 comments (2 ST, 5 PRO) indicated "less use or only very occasional use" of recordings now relative to the past. Reasons for this included that recordings may become, for some, a redundant resource as expertise increases, and a few respondents seemed rather cautious to acknowledging openly the influence of others as their career progresses; an issue that has already been identified in previous studies (Hallam, 1995, p. 121).

55 respondents (32 ST, 23 PRO), however, reported that recordings are "more important and/or used more frequently" now than in the past. The most popular explanation (n = 20; 7 ST, 13 PRO) was the "increased availability and greater choice" of recordings nowadays:

> From vinyl records available back when I was at music college, to affordable cassettes, and now, of course, to Spotify and YouTube. Recordings have become more important because they are available more easily (RES111).

> I use them even more now I'm more experienced - also since iTunes makes them so easy to find, buy, organise and take around with me (RES123).

> Now with the internet and YouTube it is possible to hear practically all standard repertoire for free, though quality varies significantly (RES130).

By reflecting on recorded music's widespread availability, these responses highlight the agency of recordings as both mobilised culture and personal resource (DeNora, 2000; Flynn, 2016).

Other reasons stated to justify the increased use of recordings included "listening more now than in the past" (n = 5; 2 ST, 3 PRO), listening due to "more demanding repertoire" (n = 4; 4 ST), or due to "lack of teacher" (n = 2; 2 ST). Concerning the latter two reasons, advanced musicians still need guidance and support in order to keep improving, develop ideas for musical interpretation, or sustain motivation. These needs can be fulfilled by listening to recordings.

Musical knowledge and development

53 participants[1] (39 ST, 14 PRO), reported that listening to recordings has assisted the development of their musical knowledge over time, such as through informing their performance interpretation and/or enhancing their stylistic awareness. (In the coding, musical style has been treated as an all-inclusive category because respondents' references to style tended to be mixed. At times these denoted specifically the compositional style of a piece and on other occasions the playing style.)

[1] In Volioti & Williamon (2017), we reported that 46 respondents indicated that listening to recordings assists stylistic development. The count of 53 reported here is a broader theme 'musical knowledge and development' which encompasses aspects of stylistic knowledge.

20 responses (15 ST, 5 PRO) indicated that listening to recordings helps musical learning by "revealing new possibilities for performance." Being exposed to others' interpretations was expressed in varied but mostly positive terms:

> A good recording of a piece of music I'm playing or similar pieces (or even wildly different ones) can inform an interpretation in ways that I hadn't imagined possible (RES1).

> I used to believe that is was unnecessary for me to listen to pieces on a recording if I already knew how to play them, but then I realised that I may accumulate other ideas as to how to play the piece, i.e. different interpretation (RES39).

10 participants (5 ST, 5 PRO) commented that listening to recordings helps them "become familiar with new repertoire," such as through getting an overall sense of how the piece goes before focusing on the finer details:

> Now, as a music student, I always listen to new pieces, first of all to get a general idea of the mood and style of the music and then to help interpret more specific areas of the piece (RES4).

As other studies have shown (Hallam 1995; Chaffin *et al.*, 2003), an attribute of expert performers is their ability to scaffold their interpretation from initially having the "bigger picture," or an overall sense of the shape of the music, and subsequently focusing on more specific technical and expressive details.

Another 5 responses (5 ST) clearly indicated that recordings help in gaining "more awareness of the wider stylistic context" of music:

> As I have become older and focused on the study of music, I am more interested about the overall context and style of the piece, whereas when I was younger I was more interested in playing purely for fun [. . .] (RES18).

3 participants (1 ST, 2 PRO) commented explicitly that recordings are a valuable resource not only for expanding one's knowledge of repertoire but also for "learning technique:"

> I have always used recordings to help me choose and learn repertoire. As a student I would sit in the library listening to LPs and tape the tracks I liked and play them back on my Walkman to help me learn the songs. I have learned aspects of vocal technique from listening to recordings that I didn't learn from my teachers [. . .] (RES130).

Type of use of recordings during learning

37 respondents (26 ST, 11 PRO) commented on the range of uses of recordings in self-regulated learning activities. 10 smaller sub-themes were clearly identified (see Figure 1).

6 participants (4 ST, 2 PRO) indicated using recordings for "time management," such as to accelerate learning or overcome rehearsal constraints. 1 student reported using recordings "instead of a score," and another 2 students mentioned listening to recordings "instead of doing physical practice." 7 participants (4 ST, 3 PRO) commented on using recordings to "get the bigger picture" of a piece.

5 respondents (4 ST, 1 PRO) commented that they listen to a "wider range of recordings" for sourcing ideas:

> I try to hear several different interpretations of a piece if possible rather than just one or two to gain a wider view on how a piece of music can be played (RES29).

> More skeptical about the perfect performance and more open to what works. Taking ideas from a range of recorded sources (RES96).

Another 2 students indicated that they listen more selectively to specific recordings, such as those recommended by others. Such views, about listening to a range of

interpretations, testify to expert musicians' tendency to acquire a body of musical knowledge from many sources (e.g., Hallam, 1995, pp. 112-115), and to scaffold their interpretations from a "field of options" (Hargreaves *et al.*, 2012, p. 165). Selectivity, moreover, highlights advanced musicians' ability to identify more suitable tools for self-regulated learning (e.g., McPherson & Zimmerman 2011).

3 participants (2 ST, 1 PRO) reported listening to recordings for "problem solving:"

> It helps me get the rhythm of the piece in my head and create the mood throughout, which I had been struggling to do previously (RES62).

And another 2 students reported using recordings of their own performances for the purpose of self-reflection and evaluation:

> In the concert band I play, we also use recordings of our own performances to learn from, and make changes for future performances (RES4).

Learning a piece of music is akin to problem-solving, which also involves reflection, since forming an interpretation entails figuring out "how to do things" and even "how to do things differently or better" from previous takes (Chaffin *et al.*, 2003; Clarke, 2012).

6 participants (3 ST, 3 PRO) commented more generally on various uses of recordings as "practice/learning aids:"

> I quite often use recordings of accompaniments only, some of which I make myself by playing the piano part [. . .] when I'm pushed for time and need to memorise something fast, I'll sing along to a recording I like the tempi of, trying to drown out the sound of the singer so that I'm not using their voice as a cue for when to come in for the words (RES126).

Another 3 respondents (2 ST, 1 PRO), indicated using recordings as "teaching/pedagogical aids:"

> [to] encourage my students to listen before learning to give them an idea of what the piece sounds like (RES6).

> To explain a concept to someone who isn't as familiar with musical terms (RES23).

Collectively, the reported sub-themes and indicative quotations exemplify a range of uses of recordings for self-regulated learning, including: planning and organisation, facilitation of cognitive skills, such as content learning, internalisation of music, problem solving, self-reflection and evaluation, and as aural scores to communicate or explain ideas to others in coaching situations.

Notions of influence and individuality

48 participants (31 ST, 17 PRO) commented on how recordings influence interpretation. Among them, various respondents articulated conceptions of individuality in "relation to others." 12 participants (7 ST, 5 PRO) explicitly stated that listening to recordings should not result in "copying" another interpretation; a view commonly shared within the musical profession, since mere copying of another performance, or recording, is unworthy of artistic recognition (e.g., Cook & Sapp, 2007).

13 participants (10 ST, 3 PRO) indicated notions of individuality by expressing that they use others' takes on a piece as a "reference point for comparison" when forming their own interpretation:

> Now with more advanced technique and pieces I find it always worthwhile to listen to another flautist's interpretation to solidly ground my own. Change what I don't like and borrow ideas that I like (RES34).

> Recordings are always a useful recourse for both assimilating another player or style, but also as a reference point for personal innovation (RES46).

Although in the above excerpts a sense of self is expressed with openness to others, other participants were more critical about how individuality might be achieved:

> Before starting at [music college], I relied heavily on recordings as they help to accelerate the learning process and I didn't have unlimited access to musical scores, vocal coaches and accompanists. However, since starting I [. . .] use them as a reference point after I have already learnt a piece and put my own stamp on it. Otherwise I am susceptible to picking up bad habits from other singers or attempting to imitate them instead of being true to my own vocal tone and colour (RES49).

Within this sub-theme of using recordings as a "reference point for comparison" (n = 13), 4 comments (3 ST, 1 PRO) also illustrated influence as an amalgam that arises from "choosing and mixing ideas" from other sources:

> [. . .] Change what I don't like and borrow ideas that I like (RES34).

> [. . .] I enjoy listening to various recordings, choosing what I enjoy and amalgamating these with my own interpretation to create an informed performance at the highest possible level I can achieve (RES50).

12 respondents (8 ST, 4 PRO) conveyed "notions of self-efficacy" in terms of trusting their ability to make appropriate interpretative judgements and maintain their individuality even in the shadow of listening to others' recordings:

> I am more aware of the influence that recordings have on my interpretation and more able to choose the elements that I believe better represent me as a performer (RES59).

> As I have developed my musical awareness, my ability to interpret others' performances has improved, as has my confidence in my own interpretation, and feeling comfortable with rejecting others' interpretations (RES110).

Some respondents expressed self-efficacy in terms of their ability to choose appropriate recordings to listen to, ones that either complement or even contrast with their interpretative approach:

> Earlier on in my instrumental studies I would have listened to any recording and not given it much thought. Now I spend more time researching and looking for a recording I know will help me the most, or one which contrasts what I'm being taught to see where variation can be achieved (RES26).

> Would have chosen a well-known performer and not questioned their interpretation (e.g. as a young student). Would now listen more critically and to a range of performances for ideas on what 'works effectively' for me. What best expresses what I want to get across clearly (RES96).

Collectively these responses highlight the influence of others as a variegated inter-subjective social construct. Although direct copying is clearly frowned upon, respondents' openness to the influence of recordings was often accompanied by expressions of self-efficacy indicating trust in one's ability to make appropriate interpretative judgements. Being selective as to which recording to focus on is linked to greater maturity, self-awareness and musical insight (e.g., "[what] will help me the most (RES26)," "what works effectively for me (RES96)"). Although listening to others' recordings can be used as a benchmark in the search for novel interpretative possibilities, individuality in performance seems to be negotiated between looking for orientation and looking for confirmation when sourcing others' ideas, or takes, on a piece, while retaining self-trust in one's performance interpretation.

Mode of listening (more critical and discerning)

39 respondents (28 ST, 11 PRO) reported that the way they listen to recordings now has become more critical and discerning relative to the past:

> It [i.e., listening to recordings] has become more critical and analytical [. . .] (RES22).

> Yes, I listen much more attentively now to a wide range of performances of the same piece (RES31).

> Yes, [. . .] it allows me to zoom on the parts I failed to focus in my lessons (RES67).

4 participants (4 ST) commented more explicitly on exercising "critical judgement for selecting particular recordings" which may be beneficial to their musical development:

> I am now more informed as a listener in order to determine in a very short time whether I think a recording is worthwhile for my personal advancement (RES50).

Another 4 respondents (3 ST, 1 PRO) expressed that besides becoming more critical as listeners, the stage at which they choose to listen to recordings during the learning cycle has changed:

> I used to listen to recordings a lot throughout the entire of process of learning a piece – before and while learning it and after having performed it. Now, I listen more critically to a few recordings once through before learning it and another time before I'm ready to perform it (RES19).

> I used to readily use a recording even in the early stages of learning a piece, but now I tend to listen sparingly and normally only when I've already formed my own interpretation [. . .]. listening to recordings. . . has the added element of monitoring the way you come across, deciding if what you think you are doing is noticeable enough [. . .] (RES126).

3 students expressed that coupled with a more discerning ear when listening to others' recordings is a more critical stance towards their own playing, thus highlighting a link between purposeful listening and greater awareness of one's own actions as performer.

Such comments indicate that how a recording is used as a learning resource (in terms of frequency of listening, stage of learning or listening attitude) is itself subject to change over time according to an individual's knowledge, aesthetic priorities, and critical (self-evaluative) abilities. This is consonant with the social-cognitive view of self-regulated learning as a dynamic process involving feedback and change. As McPherson and Zimmerman (2011) posit: "adjustments [in self-regulation] are necessary because personal, behavioural, and environmental factors of performance and learning are constantly changing" (pp. 131-132).

GENERAL DISCUSSION

This article investigated the following research question: How and in what ways do advanced music students (in tertiary education) and professional musicians perceive the changes in the use and influence of recordings over the course of their musical training or careers (i.e., at the time of completing the online survey and relative to their past habits).

Thematic analysis of free text comments from 130 respondents revealed the following patterns of change: an overall increased level of use and greater importance of recordings now relative to the past; a definite and largely positive contribution of recordings in enhancing aspects of musical knowledge and development (plus reports on varied uses of recordings in learning processes); a largely positive attitude to the influence of others' interpretations and a means of developing expressions of self-identity in relation to others; a route to acquiring a more critical and discerning mode of listening to recordings. The results of this study extend and elucidate further the quantitative analysis of the survey's evaluative questions (Volioti & Williamon, 2017), as free text comments can offer tangible insight into participants' experiences, perceptions, and thoughts. The remaining discussion outlines how the qualitative data indicate a number of

inter-relations between the themes identified, and how these in turn point to the proposed aggregate dimensions shown in Figure 1.

To become an expert musician, with enriched stylistic knowledge and greater awareness of musical context, one can benefit from being exposed to more interpretative possibilities that can be garnered from aural sources like recordings. Yet, knowing how, why, and what to choose from a field of possibilities requires not only increased expertise but also self-efficacy, as highlighted by participants' responses. Self-efficacy develops with experience and allows the fine-tuning of cognitive and behavioural skills at higher levels of expertise (e.g., Nielsen, 2004; McPherson & McCormic, 2006; Ritchie & Williamon, 2011). As the findings indicate, the ubiquity of recordings does not imply an uncritical attitude to listening by advanced performers. On the contrary, while the widespread availability of this resource clearly enhances musical learning and development, its effectiveness depends on the individual's ability to filter selectively through it and adapt it for their particular needs.

The study's findings are broadly consonant with the cognitive psychological view of listening as a creative process of active cognitive construction. Since responses to music have been shown to vary predictably with expertise, musicians with higher levels of training are more likely to engage in more critical, discerning listening and in a more objective, even analytic, manner than non-musicians (Hargreaves *et al.,* 2012, pp. 159 and 164). Competent engagement with music also depends on the listener's level of familiarity with specific styles and genres (e.g., King & Prior, 2013), and can be further enhanced as listeners gain greater historical and cultural knowledge of a particular musical tradition. Unlike novices, expert listeners have more extended and detailed internal maps of styles and genres from which to draw comparisons. As Hargreaves *et al.* (2012) explain "highly trained listeners construct and situate their experience within a *field* of information, whereas less qualified listeners might only appreciate the significance of a single pattern" (p. 165). Greater contextual musical knowledge also implies that expert musicians "perform a different kind of cognitive construction" because they are better equipped to choose flexibly from a range of perceptual options and are likely to be more responsive to even subtler differences in musical styles (Hargreaves *et al.,* 2012, p. 165). To this effect, recordings offer a huge range of options

from which new interpretations might be informed and inspired (Clarke, 2012; Leech-Wilkinson, 2016).

The data also support a positive attitude to the influence of recordings through expressions of openness to others and actively seeking a range of interpretative options from which to choose. A recording is a version of the piece (or musical text) in performance. Since participants' comments indicated that a new interpretation can be built by sourcing suitable ideas from multiple versions, influence in performance emerges here as an inter-textual and inter-subjective construct—a dialogue between the individual and other voices within a musical tradition (Gadamer, 1989). Forming an interpretation from actively choosing, combining, and recombining interpretative possibilities does not preclude the agency of the individual. In fact, several respondents' expressions of self-identity, including their conceptions of originality, were articulated in relational terms—the "self" was constructed in discourse in relation to the "other." Given the social nature of musical performance, artistic identities are relational since we tend to define ourselves in relation to others (e.g., Giddens, 1991; Davidson, 1997; Cook, 2012). Listening to recordings appears to confer a useful resource for identity construction. As Hargreaves *et al.* (2012) claim, "musical identities are ultimately built from the ever-changing responses and preferences that constitute each individual's listening history" (p. 158-159).

The study's findings offer various implications for music education. Educational research already supports the view that learning environments ought to embed different kinds of inter-subjective dialogue in order to nurture the performer's creative insight and the development of their own musical voice (e.g., Gaunt, 2017; Creech & Hallam, 2017; Smart & Green, 2017). Yet, the role of listening to recordings to achieve this still remains an uncharted area that warrants further practical and theoretical exploration. For example, incorporating structured listening games or exercises in formal and informal learning contexts could offer fruitful avenues for educators and advanced students alike (e.g., McManus, 2014; Varvarigou, 2017). Expert musicians are better able to self-regulate their learning and apply metacognitive skills (Araújo, 2016; Williamon *et al.*, 2017), and as musicians become more independent, teachers are not the only experts or role models to offer guidance. Outside one-to-one or group tuition, expert performers in recordings

can provide alternative, or just as effective, models for advanced musicians' learning and metacognitive strategies. Learning through sourcing appropriate ideas from other aural models can help the development of cognitive and behavioural tools needed for nurturing innovation. As Bandura claims, comparisons of one's attainments with those of others, especially when the model is not too dissimilar from one self, play an important part in building one's self-efficacy (Bandura, 1997, p. 87). If, as has been suggested, emotional/motivational strategies improve self-efficacy (Colombo & Antonietti, 2017, p. 111), then it is plausible that choosing, listening, and responding to recordings that elicit a positive emotional experience for the learner can be particularly beneficial. Various participants in the survey commented on responding positively to recordings they "like."

The present study points to further development and research. Although the two open questions (Q25 and Q30) sought to prompt an element of reflection among participants in order to capture patterns of change over time, the responses inevitably provide only a snapshot of participants' experiences. Since text comments were relatively short, it was not possible to go beyond the semantic surface to establish greater interpretative claims. Observational methods combined with musicians' concurrent and retrospective verbal reports at different stages of practising would be worth pursuing. Furthermore, had the two open questions been formulated differently, with more emphasis on "how," and had more respondents especially from vernacular music specialisms completed the questionnaire, different data may have emerged offering further insight on issues of process. For example, in terms of how musicians' responses to recordings differ in the early, middle, and later stages of their learning, and the type of meaningful comparisons that might be drawn from different instrumental groups and genre specialisms. Addressing these issues in future research could offer a rich picture of the role of recordings as heuristics for building an interpretation, in constructions of individuality, and the mechanisms of influence processes in advanced-level music performance.

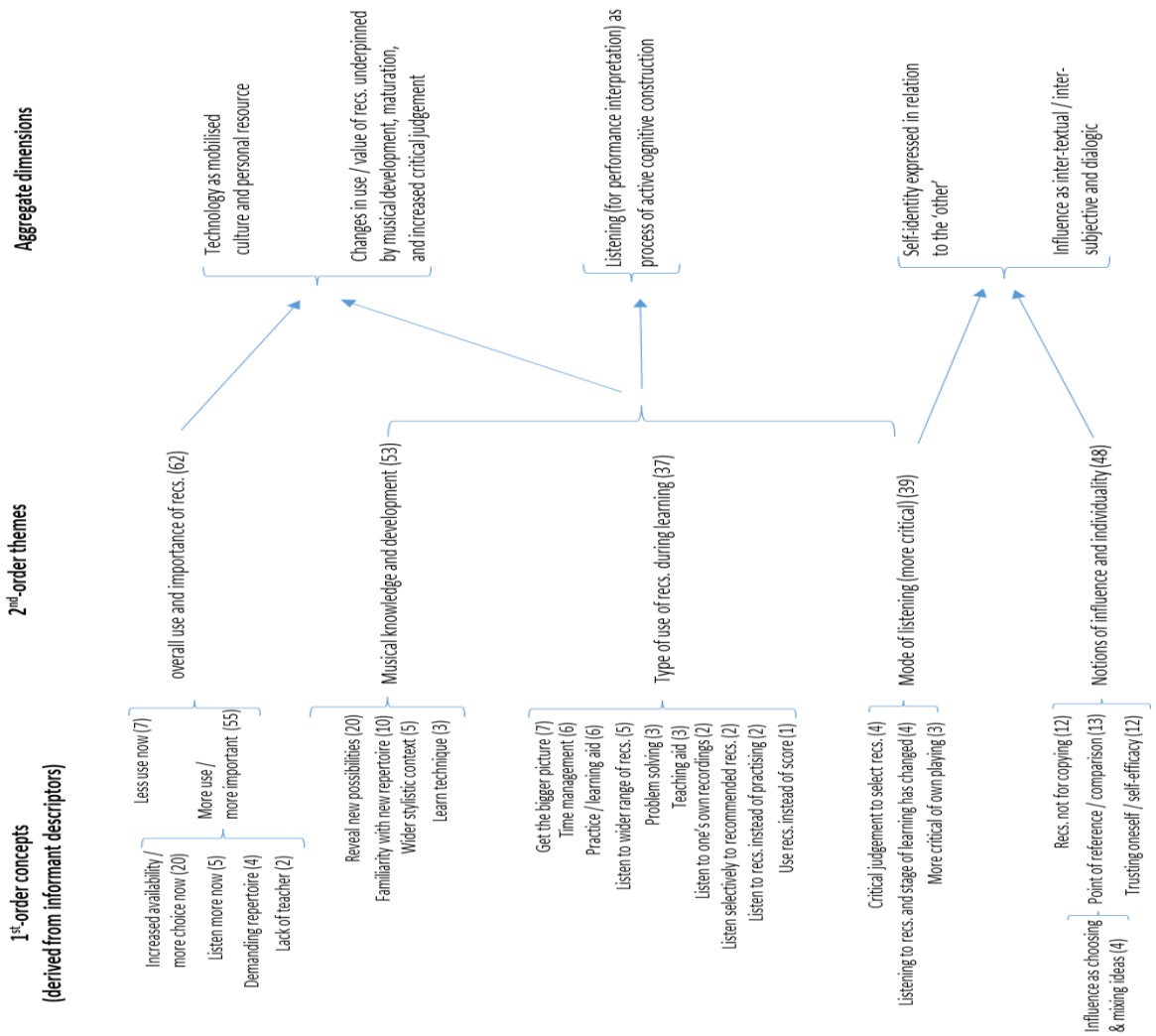
Table 1 - Summary of participant characteristics for those respondents whose comments are given in the text

ID	Status (ST / PRO)	Specialism	Age (yrs)	Sex (M / F)
RES1	ST (UG)	classical guitar	19	M
RES4	ST (UG)	music education	29	F
RES6	ST (UG)	keyboard	26	M
RES18	ST (UG)	strings	19	M
RES19	ST (UG)	strings	19	F
RES22	ST (UG)	strings	22	F
RES23	ST (UG)	strings	19	F
RES26	ST (UG)	strings	19	F
RES29	ST (UG)	strings	32	F
RES31	ST (UG)	strings	20	F
RES34	ST (UG)	woodwind	19	M
RES39	ST (UG)	woodwind	19	F
RES46	ST (UG)	percussion	20	M
RES49	ST (UG)	vocal studies	21	F
RES50	ST (UG)	vocal studies	21	F
RES59	ST (UG)	composition	23	M
RES62	ST (PG)	community music	21	F
RES67	ST (PG)	keyboard	19	F
RES96	PRO	keyboard	51	F
RES110	PRO	keyboard	36	F

RES111	PRO	keyboard	53	F
RES123	PRO	woodwind	34	F
RES126	PRO	vocal studies	34	M
RES130	PRO	vocal studies	44	F

Figure 1 - Data structure summarizing first-order concepts (derived from informant descriptors), second-order themes and aggregate dimensions.

('Musical knowledge & development, 'type of use of recordings' and 'mode of listening' are grouped together because all of them suggest links to the aggregate dimensions 'changes in use/value of recordings' and 'listening as process of active cognitive construction'. But only 'mode of listening' is more strongly linked to 'expressions of self-identity in relation to others'.)



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Declaration of conflicting interests

The authors declare that the research was conducted in the absence of any commercial or financial relationship that could be construed as a potential conflict of interest.

Ethical approval

The study received ethical approval by the Conservatoires UK Research Ethics Committee. Informed consent was obtained from all participants, as outlined in the questionnaire introduction, and there was no payment for participation.

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