The Transferability of Musicality Outside of Musical Domains

Dave Camlin, Sage Gateshead, July 2015

Section 1: Abstract
This study considers the hypothesis of whether musicality is something that has a value beyond its use in musical situations, and specifically whether it is meaningful to suggest that organisations with a large proportion of musicians in their workforce develop organisational cultures which might be considered ‘musical’. Using a framework based around the psychological model of ‘Reversal Theory’ (Apter 2007), it takes the example of Sage Gateshead, a large music organisation in the north of the UK, as a case study, and compares the experiences of both musicians and non-musicians, in both musical and non-musical professional situations, as a way of testing the hypothesis. It also compares the experiences of those within the organisation with those outside of it. The study concludes that there is insufficient evidence to warrant the hypothesis. However, it also reveals a number of interesting findings worth further exploration, such as the complex inter-relationship between music and our emotional state, and its capacity for supporting cooperation and pro-social behaviour.

Section 2: Introduction
The impetus for this study was a professional curiosity about the organisational culture of Sage Gateshead, where I have been employed as Head of Professional Learning since 2010, and subsequently as Head of Higher Education and Research since 2012. My own professional career has been marked by a combination of musical and non-musical roles, and anecdotally, I believed that this was also true for many of the other people employed by Sage Gateshead. I was curious to see whether there was any truth in this belief, and also to explore how people experienced this kind of
professional life. For example, does the ‘blending’ of musical and non-musical professional roles result in any perceived ‘dilution’ of the skills and attributes necessary to fulfil those roles, or conversely, are they strengthened by this diversity of professional application? If the latter were the case, and if concentrations of ‘musical’ individuals were to be found within an organisation like Sage Gateshead, would it then become meaningful to consider how the collective musicality of the organisation’s individuals might positively influence and inform the professional culture of the organisation? Does it support innovation and creativity? Or does it result in a more chaotic working environment?

Section 3: Theoretical Framework

3.1 Musicality

By musicality, I mean the state of mind – and body - that enables people to respond appropriately in a musical situation, following the ‘basic rules of musical behaviour which are biologically, as well as culturally, conditioned and species-specific’ (Blacking 1974, p.100). In other words, the ‘innate human abilities that make music production and appreciation possible’ (Malloch & Trevarthen 2010, p.4). Our musicality is the part of us that is activated when we engage in musical activity, or are ‘musicking’ i.e. when we ‘take part, in any capacity, in a musical performance, whether by performing, by listening, by rehearsing or practicing, by providing material for performance (what is called composing), or by dancing’ (Small 1998, p.9).

In western society, some people consider themselves to be musical while many do not (Blacking 1974, p.9; Mithen 2007, p.1). Music, like language, is a communication system, but unlike language which is primarily useful for transmitting information (Mithen 2007, p.284), music is a communication system ‘concerned with the expression of emotion and the forging of group identities’ (p.284). The central thrust of my research was to consider the population of a music organisation like Sage Gateshead,
and identify whether there was anything significantly different about the professional approach of those who considered themselves to be ‘musical’ with those who did not. I would then compare these results with a control group of people outside the organisation, to see whether there were any significant differences or similarities.

3.2 Reversal Theory

In order to compare the experience of people in both musical and non-musical situations, I chose to use the psychological model of ‘Reversal Theory’ (Apter 2007) as a framework around which to collect quantitative data. Reversal Theory is a ‘grand theory’ of psychology ‘that deals in an integrated way with a variety of topics, showing how they are related. Reversal Theory is, essentially, a theory of motivation, emotion and personality,’ (Apter 2007, p.xi) organized around four inter-related ‘domains’:

Each ‘domain’ consists of two contrasting ‘metamotivational states’ i.e.

‘distinctive states of mind which experience [the domain] in diametrically opposite ways. In everyday life we are fluctuating from one to the other, sometimes becoming delayed in one for a time, but sooner or later switching to the other for a more or less extended period before switching back again.’ (Apter 2007, pp.17–18)
Under the theory, unless we are in a meditative state, we experience life from the perspective of one – or more – of the various metamotivational states described above. The model lent itself to my research, as it would be possible to design a questionnaire to collect comparable data in both musical and non-musical situations. For example, someone might experience a musical situation in either a telic (serious) or paratelic (playful) state. They might also experience a non-musical professional situation in either a telic or paratelic state, and thus it would be possible – across a large enough sample size – to broadly compare experiences of musical and non-musical situations, between those who considered themselves to be ‘musical’ and those who did not.

Section 4: Research design and method

4.1 Research Aims

The over-arching aim of this research was to:

1. Identify whether musicality might be considered to be a transferable state, with benefits for musical participants outside of ‘musicking’;

2. Compare the experiences of musicians and non-musicians with regard to musicality and its transferability

3. Compare the experiences of people both inside and outside of Sage Gateshead with regard to musicality and its transferability

Following Plowright’s FraIM mixed methods research framework (Plowright 2010), I settled on an initial survey by questionnaire of the population of employees of Sage Gateshead, with the resulting data to be analysed, and then explored further through interviews, focus groups and music workshops. The initial questionnaire would be conducted through ‘probability sampling’ (Plowright 2010, p.38) i.e. random selection – with subsequent investigations conducted via ‘non-probability sampling’ (p.42) of groups of musicians identified through the questionnaire.
4.2 Survey

The body of the questionnaire was designed around a series of 33 statements, the responses to which were in turn mapped against the eight metamotivational states of Apter’s Reversal Theory. The statements in the survey were designed such that each metamotivational state had fourteen statements associated with it; seven statements which would indicate positively for the state, seven which would indicate negatively. Thus, each metamotivational state was weighted evenly in the results, for both positive and negative affect. Responses were scored on a five point scale from +2 (strongly agree) to -2 (strongly disagree), giving a potential score for each state of +14 to -14, as follows:
<table>
<thead>
<tr>
<th>Category</th>
<th>Question</th>
<th>Serious</th>
<th>Playful</th>
<th>Obedient</th>
<th>Rebellious</th>
<th>Competitive</th>
<th>Affectionate</th>
<th>Self-oriented</th>
<th>Other-oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: I'm often...</td>
<td>Creating harmony</td>
<td>2</td>
<td>-2</td>
<td>-2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A: I'm often...</td>
<td>Doing things that I think other people will like / be happy with</td>
<td>2</td>
<td>-2</td>
<td>-2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A: I'm often...</td>
<td>Expressing myself / getting my point across</td>
<td></td>
<td></td>
<td>2</td>
<td>-2</td>
<td>2</td>
<td>-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A: I'm often...</td>
<td>Making it up (improvising)</td>
<td>-2</td>
<td>2</td>
<td>-2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A: I'm often...</td>
<td>Processing information (thinking)</td>
<td>2</td>
<td>-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A: I'm often...</td>
<td>So focused on what I'm doing, that I miss what's going on around me</td>
<td>2</td>
<td>-2</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>-2</td>
<td></td>
</tr>
<tr>
<td>A: I'm often...</td>
<td>Stirring things up</td>
<td>-2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A: I'm often...</td>
<td>The one with the ideas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>-2</td>
</tr>
<tr>
<td>B: I'm good at...</td>
<td>Being emotional (aware of / expressing feelings)</td>
<td>-2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B: I'm good at...</td>
<td>Following complex instructions</td>
<td>2</td>
<td>-2</td>
<td>2</td>
<td>-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B: I'm good at...</td>
<td>Following someone else’s lead</td>
<td>2</td>
<td>-2</td>
<td>-2</td>
<td>2</td>
<td></td>
<td></td>
<td>-2</td>
<td>2</td>
</tr>
<tr>
<td>B: I'm good at...</td>
<td>Helping a group reach a consensus / Listening carefully to the overall group musical sound</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-2</td>
<td>2</td>
</tr>
<tr>
<td>B: I'm good at...</td>
<td>Listening carefully to other individuals</td>
<td>-2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B: I'm good at...</td>
<td>Reflecting on / learning from my experiences</td>
<td>2</td>
<td>-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C: I enjoy...</td>
<td>A challenge</td>
<td>2</td>
<td>-2</td>
<td></td>
<td></td>
<td>2</td>
<td>-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C: I enjoy...</td>
<td>Being in the moment, and seeing what happens</td>
<td>-2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C: I enjoy...</td>
<td>Being intuitive</td>
<td>-2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C: I enjoy...</td>
<td>Exploring unfamiliar territory</td>
<td>-2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C: I enjoy...</td>
<td>finding my own way of doing something</td>
<td>-2</td>
<td>2</td>
<td>2</td>
<td>-2</td>
<td>2</td>
<td>-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C: I enjoy...</td>
<td>making whatever I’m doing the best it can be</td>
<td>2</td>
<td>-2</td>
<td></td>
<td></td>
<td>2</td>
<td>-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C: I enjoy...</td>
<td>Performing / presenting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>-2</td>
</tr>
<tr>
<td>C: I enjoy...</td>
<td>Socialising</td>
<td>-2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>-2</td>
<td>2</td>
<td>-2</td>
</tr>
</tbody>
</table>

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| C: I enjoy... | Working / making music on my own | 2 | -2 |
| C: I enjoy... | Working / making music with others | -2 | 2 |
| D: It's important to... | Be able to challenge expectations and norms | -2 | 2 |
| D: It's important to... | Be focused on achieving my goals | 2 | -2 |
| D: It's important to... | Do my own thing | -2 | 2 |
| D: It's important to... | Get it right | 2 | -2 |
| D: It's important to... | Get on with what's expected of me | 2 | -2 |
| D: It's important to... | Have a laugh | -2 | 2 |
| D: It's important to... | Make sure everyone's voice is heard | -2 | 2 |
| D: It's important to... | Not rock the boat / make a fuss | 2 | -2 |
| D: It's important to... | Not take anything too seriously | -2 | 2 |
| TOTAL RESPONSES | | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
All respondents answered the main survey questions relating to their experience of their non-musical professional life, and those currently actively involved in music answered the same questions relating to their experience of music-making, for comparison.

4.2.a. Biographical data
As well as the main questionnaire statements, respondents were asked a series of initial questions to obtain informed consent, to determine any previous musical experience, and to determine whether they were currently actively involved in music. An information sheet (see Questionnaire Information Sheet) was produced, which was duly granted University of Sunderland Ethics Committee approval. The supplementary biographical questions include the following:

4.2.a.1. Questions to establish informed consent
1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason.

3. I agree to take part in the above study.

4.2.a.2. Questions to establish previous musical experience
- I regularly listen to music for enjoyment
  - If yes, , their listening preferences in terms of musical 'challenge', and any relationship between what they listen to, and their mood;
- I enjoy going to live performances of music
  - If yes, in what capacity? e.g. performer, audience, production team;
- I have learned how to play a musical instrument, or sung in a group with others, at some point in my life;
• I currently play and / or sing in at least one musical ensemble / workshop group:
  o Are you involved in any musical ensembles with other staff members of Sage Gateshead?

• I have a music qualification
  o If yes, at what level?

• I consider myself to be musical
• I consider myself to be a musician

A total of 40 respondents from Sage Gateshead completed the questionnaire.

4.2.b. Sample Selection

For comparison, a modified version of the questionnaire was circulated via social media to elicit the responses of people not employed by Sage Gateshead, and a further 203 responses were elicited. The post is shown below:

![Dave Camlin shared a link.](https://docs.google.com/spreadsheet/viewform?formkey=dFFXZzkwWkZIT2g3eFJrT0dpT21mc2c6MA)

As I shall discuss (see Limitations) this method of sampling was flawed, as the nature of it – personal social media networks – would inevitably affect responses. As a musician myself, it’s likely that not only would many of my own network contacts on social media be actively involved in music, but they would also be favourably inclined
toward myself as researcher, and the subject matter itself; hence the need to take all of the findings of the research with caution.

4.3 Ethics
There were a number of ethical considerations relating to the survey, which I address in Section 4.4 of the Doctoral Report. In summary, my position as ‘participant-as observer’ carried with it a significant implication that it would be ‘very difficult to maintain an emotional distance from the issues in the study or from the participants involved in the research’ (Plowright 2010, p.67). I have different kinds of power relationships with many of the respondents, either as teacher / student, manager / employee or peer / colleague. In order to navigate the complexity of these ‘situated’ relationships, it was important that all of the research involved was undertaken following the principle of ‘informed consent’ (see Questionnaire for Sage Gateshead individuals and Questionnaire for non-Sage Gateshead individuals). Even though there were very low ethical risks associated with the survey, because of these potential ethical issues, it was important for me to formally apply for approval from University of Sunderland’s Ethics Committee before proceeding (see Application for Ethics Approval).

Section 5: Findings and Results
Despite the likely bias toward a favourable result for my hypothesis (see Limitations), the results of the questionnaire were inconclusive, although certainly not without some interesting personal discoveries and insights.

5.1 Quantitative Data
In terms of the broader questions about musical experience, there was general consensus, although when it came to any differences between the 40 respondents employed at Sage Gateshead, and the rest of the respondents, there was much less difference than anticipated:
<table>
<thead>
<tr>
<th>Question</th>
<th>% agree (whole survey)</th>
<th>% agree (Sage only)</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>I listen to music for enjoyment regularly</td>
<td>93%</td>
<td>100%</td>
<td>108%</td>
</tr>
<tr>
<td>I enjoy going to live performances of music</td>
<td>91%</td>
<td>95%</td>
<td>104%</td>
</tr>
<tr>
<td>I enjoy making music on my own</td>
<td>79%</td>
<td>76%</td>
<td>95%</td>
</tr>
<tr>
<td>I enjoy making music with others</td>
<td>83%</td>
<td>76%</td>
<td>92%</td>
</tr>
<tr>
<td>I consider myself to be musical</td>
<td>79%</td>
<td>76%</td>
<td>96%</td>
</tr>
<tr>
<td>I consider myself to be a musician</td>
<td>48%</td>
<td>38%</td>
<td>79%</td>
</tr>
<tr>
<td>Is there a relationship between your listening tastes in music, and your state of mind?</td>
<td>93%</td>
<td>89%</td>
<td>95%</td>
</tr>
<tr>
<td>I have learned to play and / or sing?</td>
<td>91%</td>
<td>93%</td>
<td>101%</td>
</tr>
<tr>
<td>I have a music qualification</td>
<td>48%</td>
<td>54%</td>
<td>113%</td>
</tr>
<tr>
<td>I currently play and / or sing</td>
<td>59%</td>
<td>59%</td>
<td>101%</td>
</tr>
</tbody>
</table>

The second largest variance (13%) was the proportion of people employed by Sage Gateshead with a music qualification, but this isn’t really that surprising a statistic, given the circumstances of Sage Gateshead as a music organisation; one would perhaps expect there to be a correlation of this kind. Certainly a love of music is something that is positively sought in terms of Sage Gateshead’s recruitment strategy, and similarly those with music qualifications might be expected to be drawn toward an organisation like Sage as an employer.

Neither is it surprising that a higher proportion of Sage Gateshead staff (100%) listen to music for enjoyment regularly, for the above reasons as well as all staff being able to participate in a staff benefit scheme which entitles them to reduced – or sometimes free - admission at Sage Gateshead events. Also, because of the nature of the organisation’s artistic programme, many people will have much easier access to ‘live’ and recorded music as part of their daily professional lives.
More surprising is the proportion of people who considered themselves to be ‘musicians’: 38% of Sage Gateshead respondents as compared to 48% of the total respondents. This may say as much about a bias toward musicians taking the survey in the first place, but it also contradicts my initial hunch that Sage Gateshead was a workforce of musicians. My data suggested that higher proportions of musicians were to be found outside of Sage Gateshead, although as previously noted, this result may have been due to flaws in the sampling strategy for the questionnaire.

5.1.a. Overview

When it came to analysing the more detailed questions mapped against Reversal Theory metamotivational states, the results were even more complex, without many areas of statistical significance. The full results are attached (see Full questionnaire results) although for ease of interpretation I will outline some of the key findings here. It is worth prefacing all of this discussion with a caveat that the interpretation of the results of the questionnaire have been arrived at through my own analysis of the data within this survey alone, and they have not undergone more detailed scrutiny via more robust measures – e.g. correlating results with Apter International’s more comprehensive Telic State Measure (TSM) or Telic Dominance State Measure (TDSM) for example - because by their own standard my results have failed to deliver anything of statistical significance. The results of some of the analysis was disappointing, as it appeared to disprove my hypothesis, but ultimately revealed new lines of enquiry for my doctoral studies which have yielded more positive results. Therefore, all of the results which I am about to describe should be taken as items of interest, rather than as any more robust and ground-breaking new hypothesis around the transferability of musical ‘states’ outside of a musical domain. I present my findings in the spirit of modest scientific enquiry and the importance of writing up negative results as well as positive ones, so that others may learn from my own flawed assumptions.
The questionnaire returned results with a maximum score per metamotivational state of 14, 2 points per question. As a general note of caution when interpreting this data, it’s worth noting that there were no results outside of 2 sigma standard deviation. Figures highlighted in green or red fell outside of 1 sigma standard deviation, but even so would not normally be considered statistically significant. An overall comparison of the data relating to Reversal Theory domains in musical and non-musical situations yielded the following results:

<table>
<thead>
<tr>
<th>Scores out of 14</th>
<th>Seriou s</th>
<th>Playfu l</th>
<th>Obedient</th>
<th>Rebellio us</th>
<th>Competitiv e</th>
<th>Affectionat e</th>
<th>Self</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musicking</td>
<td>5.3</td>
<td>6.1</td>
<td>4.8</td>
<td>3.3</td>
<td>6.6</td>
<td>6.4</td>
<td>4.3</td>
<td>7.6</td>
</tr>
<tr>
<td></td>
<td>38%</td>
<td>44%</td>
<td>34%</td>
<td>24%</td>
<td>47%</td>
<td>46%</td>
<td>31%</td>
<td>54%</td>
</tr>
<tr>
<td>Non-Musicking</td>
<td>7.5</td>
<td>4.7</td>
<td>5.3</td>
<td>3.6</td>
<td>7.6</td>
<td>5.1</td>
<td>5.1</td>
<td>6.5</td>
</tr>
<tr>
<td></td>
<td>54%</td>
<td>34%</td>
<td>38%</td>
<td>26%</td>
<td>54%</td>
<td>36%</td>
<td>36%</td>
<td>46%</td>
</tr>
<tr>
<td>Variance</td>
<td>-16%</td>
<td>10%</td>
<td>-4%</td>
<td>-2%</td>
<td>-7%</td>
<td>9%</td>
<td>-6%</td>
<td>8%</td>
</tr>
</tbody>
</table>

In relation to the overall scores for each of the eight metamotivational states across both fields of musicking and non-musicking, there were a number of interesting points:

**5.1.a.1. Musically playful**

The greatest variance was in levels of ‘seriousness / playfulness’ between musicking and non-musicking situations, with most respondents reporting higher levels of ‘seriousness’ in non-musical situations, and conversely higher levels of ‘playfulness’ in musical situations. One might infer from this that music encourages playfulness – after all music is something that might be considered as one of the temporal arts, or the ‘human seriousness of play’ (Turner 1982). More simply, it might be that music is simply more recreational. One would perhaps be more surprised were this not the case, as music has a well-founded reputation as a recreational means of non-pharmacological relaxation (Bernatzky et al. 2013).
Non-musicians were more ‘serious’ than musicians when not musicking, but also less ‘serious’ than musicians when musicking, which could suggest that non-musicians use music to relax. Conversely, musicians were the most ‘playful’ generally, in both musicking and non-musicking situations. There might be evidence here to support the argument that music promotes pro-social behaviour generally (Saarikallio 2013; Hallam 2015, pp.85–88) although I should emphasise again the lack of statistical significance in the data.

5.1.a.2. Musically obedient
Musicians were more ‘obedient’ than non-musicians, both when musicking and when not musicking, further supporting the argument that musicking promotes team work (Hallam 2015, pp.85–88), as musicians have to be team players in order to achieve a collective realisation of a piece of music. However, this finding could also be interpreted quite differently. It could of course also be that socioeconomic factors such as social status, family background and upbringing are indicators of more ‘adaptive’ behaviour, and that music is simply a further marker of socioeconomic status (SES) (Costa-Giomi 2013). ‘Obedience’ in this sense might be a sociocultural phenomenon which correlates not only with musicality but with a musical family background indicative of higher SES.

5.1.a.3. Competitively Musical
Musicians were the most ‘competitive’ when musicking, but the least ‘competitive’ when not-musicking, while non-musicians were the least ‘competitive’ when musicking, but the most ‘competitive’ when not-musicking. This may point to a more general phenomenon that people tend to be more competitive in their primary professional role, because their professional reputation may be based on competing with others for ‘external goods’ (O’Dea
and are hence more 'extrinsically motivated' (Hallam & Gaunt 2012, p.60)

5.1.a.4. Affectionately Musical

Everyone (except Sage Gateshead non-musicians) was more 'affectionate' when musicking, further supporting the idea that music is a pro-social activity, requiring a cooperative 'simultaneous dialogue' (Camlin 2015a, p.20; Barenboim 2009, p.20) to animate it. This finding also supports the hypothesis found in Evolutionary Biology that music's evolutionary function is about promoting cooperation between individuals (Mithen 2007, pp.219–235; Dunbar 2012, p.212)

5.1.b. Musicking

During situations of musicking, the findings also confirmed what one might expect. Musicians scored more highly than non-musicians in all metamotivational states:

<table>
<thead>
<tr>
<th>Group</th>
<th>Serious</th>
<th>Playful</th>
<th>Obedient</th>
<th>Rebellious</th>
<th>Competitive</th>
<th>Affectionate</th>
<th>Self</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musicians</td>
<td>6.2</td>
<td>7.1</td>
<td>5.2</td>
<td>4.4</td>
<td>8.2</td>
<td>6.8</td>
<td>6.0</td>
<td>8.7</td>
</tr>
<tr>
<td>ALL</td>
<td>5.3</td>
<td>6.1</td>
<td>4.8</td>
<td>3.3</td>
<td>6.6</td>
<td>6.4</td>
<td>4.3</td>
<td>7.6</td>
</tr>
<tr>
<td>Non-musicians</td>
<td>3.4</td>
<td>4.0</td>
<td>3.9</td>
<td>1.0</td>
<td>3.5</td>
<td>5.6</td>
<td>0.7</td>
<td>5.4</td>
</tr>
</tbody>
</table>

All of these variations could be explained by the simple fact that musicians have probably developed greater facility for musicking than non-musicians, and therefore have also developed greater facility for accessing a range of metamotivational states during musicking. These are simply the traits of a musician. Musicians could reasonably be expected to be more ‘rebellious’ during ‘musicking’ as they may need to break with musical conventions and expectations in order to participate in musical situations which were more stimulating and challenging for their level of musical skill.

5.1.b.1. Sage Gateshead non-musicians and non-musical respondents

However, still in relation to musicking situations, it was interesting to note that Sage Gateshead staff who
identified neither as ‘musicians’ nor as ‘musical’ returned
the only results in the survey below 1 sigma standard
deviation:

<table>
<thead>
<tr>
<th>Group</th>
<th>Serious</th>
<th>Playful</th>
<th>Obedient</th>
<th>Rebellious</th>
<th>Competitive</th>
<th>Affectionate</th>
<th>Self</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sage Non-musicians</td>
<td>1.0</td>
<td>1.3</td>
<td>0.7</td>
<td>-0.4</td>
<td>-0.2</td>
<td>1.9</td>
<td>-0.8</td>
<td>1.6</td>
</tr>
<tr>
<td>Sage Non-musical</td>
<td>1.3</td>
<td>1.7</td>
<td>1.0</td>
<td>-0.4</td>
<td>-0.1</td>
<td>2.9</td>
<td>-0.9</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Far from the premise that any psychological benefits of
musicking might be transferable outside of musicking,
these results seemed to suggest that for the ‘non-
musical’ / ‘non-musician’ staff at Sage Gateshead, being
part of the organisation had a negative impact on their
musicality. This might be taken as evidence of the
phenomena which John Blacking observed, that
‘technological development brings about a degree of
social exclusion’ (Blacking 1974, p.34) in musical terms i.e.
a musical culture of technical excellence might actually
serve to exclude otherwise musical individuals from
greater participation in a musical culture. I explore this
paradox further in the ‘Discussion’ section in this report
on Musicality.

5.1.c. Non-musicking

When it came to non-musicking however, there was little variance at
all when comparing musicians with non-musicians:

<table>
<thead>
<tr>
<th>Group</th>
<th>Serious</th>
<th>Playful</th>
<th>Obedient</th>
<th>Rebellious</th>
<th>Competitive</th>
<th>Affectionate</th>
<th>Self</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musicians</td>
<td>7.3</td>
<td>5.1</td>
<td>5.5</td>
<td>3.9</td>
<td>7.4</td>
<td>5.4</td>
<td>5.4</td>
<td>6.8</td>
</tr>
<tr>
<td>ALL</td>
<td>7.5</td>
<td>4.7</td>
<td>5.3</td>
<td>3.6</td>
<td>7.6</td>
<td>5.1</td>
<td>5.1</td>
<td>6.5</td>
</tr>
<tr>
<td>Non-musicians</td>
<td>7.6</td>
<td>4.4</td>
<td>5.1</td>
<td>3.5</td>
<td>7.6</td>
<td>4.8</td>
<td>5.0</td>
<td>6.3</td>
</tr>
</tbody>
</table>

For the purposes of my research, this was the most disappointing
result, as it meant my central premise around the transferability of
psychological states associated with ‘musicking’ outside of musical
situations, was not evidenced in the data. The fact of whether
someone considered themselves to be a musician or not did not
correlate with any significant difference in behaviour in non-musical situations, effectively disproving the hypothesis. However, this disappointing conclusion broadly resonates with current thinking around the transferability of musical experiences, where even though some correlation between musicality and non-musical abilities might be observable, the direction of causality is unproven (Hallam 2015). As I shall discuss, rather than this conclusion drawing a curtain across my ideas, it forced me to consider the complexity of them in much more detail, and ultimately gave rise to a more fruitful line of enquiry in my doctoral studies.

5.1.d. Differences between ‘musicians’ and those who considered themselves ‘musical’

In terms of non-musicking, the results changed a little when comparing those who considered themselves to be ‘musical’ with those who didn’t:

<table>
<thead>
<tr>
<th>Group</th>
<th>Serious</th>
<th>Playful</th>
<th>Obedient</th>
<th>Rebellious</th>
<th>Competitive</th>
<th>Affectionate</th>
<th>Self</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musical</td>
<td>7.6</td>
<td>5.1</td>
<td>5.5</td>
<td>4.0</td>
<td>7.8</td>
<td>5.4</td>
<td>5.4</td>
<td>6.8</td>
</tr>
<tr>
<td>ALL</td>
<td>7.5</td>
<td>4.7</td>
<td>5.3</td>
<td>3.6</td>
<td>7.6</td>
<td>5.1</td>
<td>5.1</td>
<td>6.5</td>
</tr>
<tr>
<td>Non-musical</td>
<td>7.2</td>
<td>3.7</td>
<td>4.6</td>
<td>2.8</td>
<td>7.2</td>
<td>4.3</td>
<td>4.6</td>
<td>5.7</td>
</tr>
</tbody>
</table>

However, none of these changes resulted in data above 1 sigma of standard deviation. Also, any variance here could be explained by the same factors which undermined the ‘Mozart Effect’ (Schellenberg 2013), namely that musicality here could be interpreted as a product of other factors like SES which may also influence professional behaviour (Costa-Giomi 2013).

5.1.e. Differences between Sage and non-Sage respondents in non-musical situations

When it came to comparing the responses of Sage Gateshead respondents as opposed to non-Sage respondents in non-musicking situations, there were some interesting results:
Although again, none of these results were outside of 1 sigma of standard deviation,

- Sage Gateshead musicians scored higher (>10%) on a number of states\(^1\), and were above the mean in all bar one state\(^2\) during non-musicking
- Similarly, Sage Gateshead ‘musical’ respondents scored higher (>10%) in two states\(^3\)
- Levels of ‘affection’ were higher (>10%) among Sage Gateshead staff\(^4\) except those identified as ‘non-musicians’
- Responses of Sage Gateshead staff to the ‘self-focused’ state were all below the mean\(^5\)
- Musical respondents all scored high on ‘rebelliousness’\(^6\)
- Non-musical respondents from outside Sage scored low (<10%) on a number of states\(^7\)

However, as noted above, none of these results were outside of 1 sigma standard deviation, and the small sample group (11 musician respondents, and a further 5 who considered themselves musical) may not be typical of the wider Sage Gateshead population.

In short, the quantitative data did not support the hypothesis about the transferability of musicality outside of musical domains. While this
result was disappointing, it also felt an important conclusion to reach, as without the quantitative data, I believe it would have been possible to have inferred the validity of the hypothesis from some of the qualitative findings. This in itself was significant for me, as it revealed the importance of developing research methodologies for research in the arts which are more robust than qualitative data alone, an issue which has become more important in recent years as the ‘measurable’ value of the Arts has been brought under closer scrutiny (Arts Council England 2014; Arts & Humanities Research Council 2014; Neelands et al. 2015). In turn, this has also led to a more sophisticated development of my own approach to research, and which I believe will enable me to make a more valuable contribution to knowledge of the value of arts and culture in my post-doctoral work.

5.2 Qualitative Data

As well as the quantitative data collected via the questionnaire, there were three questions on the questionnaire which asked for elaboration in the form of narrative, all of which elicited very interesting and rich responses:

1) Overall, do you think there is a relationship between your listening tastes in music, and your state of mind?
2) How challenging do you prefer the music you listen to?
3) Do you think there is any connection between how you are when you're listening to, playing, composing or performing music, and how you are in other professional contexts (e.g. management, admin)?

Respondents talked about the impact of music on a range of things which corresponded well with current thinking about the impact of music on health and wellbeing (Ho et al. 2007; Juslin & Västfjäll 2008; Schellenberg 2013; Koelsch & Stegemann 2013; Hallam 2013; Hallam 2015), including music’s affect on mood and state of arousal – assisting with relaxation, or energising its listeners - its capacity to assist concentration on other
tasks, as well as perceiving a positive affect on public confidence, teamwork, creativity and other aspects of professional life.

5.2.a. Listening to Music

In response to question 1) above, participants responded:

- Yes – I listen to certain things to cheer me up, help relax, get psyched up for things, etc.
- I definitely have particular pieces or types of music that make me feel better, and it is definitely true that listening to baroque music makes you work better.
- Yes, I listen to particular types of music when in a particular mood and yes particular types of music can affect my mood.
- Music can set or reflect your mood......
- I can pinpoint what type of music I am going to listen to depending on how I feel ...and even in relation to the seasons and weather. There are some pieces in my collection that are summer / winter only
- I tend to listen to classical music when I want to relax and perhaps if I am reading or need to concentrate I will have it playing in the background. I like to wake up to contemporary music on the radio as it helps me to "get going" in the morning.
- I tend to find I enjoy livelier music earlier in the day - later on I prefer something more mellow.
- I listen to music a lot so choose whatever matches my mood at any given moment.
- I find that listening can be very calming when you are stressed – and conversely if you exercising it can keep you going in the gym even when your body is exhausted – it focuses your mind on listening rather than thinking about how everything aches!
- Music absolutely has a dramatic effect on my mood / often when I'm feeling down, melancholic music appeals
- I think music definitely affects your mood
Most of these responses support the view that music can bring about changes in arousal and mood (Ho et al. 2007) which can, in turn, affect other non-musical performance:

‘In other words, music can change how listeners feel (Jones et al. 2006), and their feelings, in turn, influence their cognitive performance (Jones et al. 2006; Jones & Estell 2007).’ (Schellenberg 2013)

5.2.b. ‘Challenging’ Music

Responses to question 2) above elaborated on this theme:

- I enjoy challenge when it's all I'm doing. [I prefer] less challenging [music] when I'm working, driving etc.
- I like hearing new music that I wouldn't normally approach; it encourages me to think and to challenge myself. At the same time, sometimes you just want to be absorbed by the familiar and the beautiful... I like a nice balance of the two!
- Don't be put off by an initial reaction and stop listening. Persevere and then decide.
- All sorts of things influence this - mood, tiredness, what other things I have been doing myself musically....No easy answer
- Music is a constant background when I am not working
- I like thrash metal, Swedish house music, New Orleans jazz etc – some people would say that they would be challenging but to me they’re comfortable. But generally I stay within my preferred genres and styles only occasionally straying to widen my palette
- Music, in my view, combines with life on all levels. Be it high art that challenges the listener and requires study or music designed to fulfil your most base pleasures (like modern dance music), it all has its place and is of equal value.
- Not sure about this. I want to say yes but I think about smoking during stressful times and how I think that it helps the stress when
actually it does. So maybe music is the same thing – I think that it helps but does it?

These responses generally further support the ‘arousal and mood hypothesis’ (Ho et al. 2007) and also hint at music’s potential as a mediating factor in arousal. The final comment about comparing music listening to smoking is interesting, as smoking is one of the few activities that Apter identifies as mediating arousal in both directions of ‘reversal’:

‘when people in the telic state smoke they tend to reduce their cortical arousal, whereas when people in the paratelic state smoke they tend to increase such arousal. Smoking turns out to be a magic wand which acts to change arousal levels in whatever direction is desired- to reduce it in the telic state and increase it in the paratelic state: in this sense, it is an all-purpose arousal regulator!’ (Apter 2007, p.101)

The above responses indicate that music may have a similar function – when we’re anxious or stressed, we may choose to engage in musical activities which will help us relax, whereas when we are bored or tired, we may want music to wake us up and help us get excited. Because these states are highly individualized, the kinds of musical experiences we seek will also be particular to us, and to whatever the present moment calls for. In this sense, we might think of music as a kind of ‘medicine’, supporting us to mediate arousal levels in a similar way to smoking, but without any of the harmful effects:

‘Insofar as music listening can influence health, it offers a number of advantages. Aside from people with impaired hearing, it is readily available to all parts of society (unlike, for instance, theatre and opera), and it can be tailored to personal taste. Therefore, it may reach those that do not normally ‘consume’ other kinds of culture. Moreover, music can be consumed in many different contexts; it is not tied to a particular time or
location. From an intervention point of view, additional advantages include that music is inexpensive, easy to administer, and arguably has few if any negative secondary effects, in contrast to, for instance, prescription drugs and other approaches to addressing stress-related ill-health.’ (Västfjäll et al. 2013)

This point would merit further research, in particular looking at how active participation in music – singing, playing instruments etc. - compares with more passive consumption of music through listening. Indeed, some leading researchers are already capitalising on this unique feature of music to ‘change how we feel’ (Osborne et al. n.d.).

5.2.c. Connections between ‘musicking’ and ‘non-musicking’
In response to question 3) above, asking whether they perceived transferability between musical and non-musical situations, participants provided the following responses:

- Listening to others, being in the moment and trying to perform to the best of your ability
- I recognise the same emotional and intellectual processes - listening, improvising, being in the moment, responding, creating.
- I guess so. For example if I'm performing music I would generally feel the same way as I do when presenting in a professional capacity, e.g. nervous but excited and exhilarated.
- I would say that working in the Sage Gateshead is akin to being in an orchestra. There are conductors and section leaders. As workers/musicians sometimes we love the music we play and other times we don't.
- Helps with focus, also teamwork and involving everyone in an activity.
- I like to be able to get things right (or as good as they can be), which is not something I had previously thought about with my musical activities.
There is a crossover between wanting to get it right and making sure everyone is heard. Meeting expectations has always been high on the agenda ...so it covers both

There were also a couple of less certain responses:

- My music is an escape from work and I don't find the two related.
- Would probably have to write a dissertation about this....

The responses to this question seem less certain, and as I shall discuss, the perception of a psychological connection between ‘musicking’ and ‘non-musicking’ may be stronger among those who experience music more centrally in their lives, an assumption which probably clouded my own judgement in the design of the research at the outset. Notwithstanding, this rich ‘ecological’ data would subsequently prove invaluable in helping develop the ideas that followed from a consideration of it.

Section 6: Discussion

With hindsight, it's easy to see the flaws in the design of this research. If my basic premise were true, that musicality might be something that drives performance in other non-musical domains of professional life, then one might reasonably expect professional musicians to hold positions of influence and leadership across all professional walks of life. However, for the most part, musicians are busy being musicians rather than anything else, so at its simplest level the hypothesis must be more complex than my initial research design assumed. Many professional people do, in fact, have a musical background or an interest in music, but then, music is ‘ubiquitous’ (MacDonald et al. 2013) in western culture, so most people have a relationship with it at some level. The ‘arousal and mood hypothesis’ (Ho et al. 2007; Schellenberg 2013) explains how music can change our psychological state, and how we feel might be a better indicator of how we approach challenges in our professional lives, rather than any direct relationship to music.
Far from being the ‘cause’ of any increased psychological facility, my study concluded that there was no distinction between musicians and non-musicians, or ‘musical’ and ‘non-musical’ respondents when it came to non-musical activities. There was no observable psychological benefit of being musical beyond simply being musical itself. Of course, this doesn’t mean that such a benefit does not exist – absence of evidence of is not evidence of absence, after all – but that my study did not reveal it. More prosaically, it may be the case that most human beings experience events and activities in pretty much the same way as every other. Obviously any experience is uniquely experienced by every individual, because of the individual nature of experience, but those experiences, taken collectively, are similar. Despite my own sense – and that of some of the views expressed in the qualitative data – that the psychological mindset of being a musician is something that is transferable outside of musical situations, this is not borne out in the data.

Interestingly, while more Sage respondents (54%) had a formal music qualification than non-Sage respondents (48%) fewer Sage respondents (76%) considered themselves to be ‘musical’ than non-Sage respondents (79%), and this paradox was further emphasised by the number of Sage respondents (38%) who considered themselves to be ‘a musician’ compared with non-Sage respondents (48%). While there may be case selection bias which influenced the number of non-Sage musicians who participated in the social media survey, this could also be taken as evidence of the paradoxical phenomenon recognised by John Blacking, that when, ‘the technical level of what is defined as musicality is raised, some people must be branded as unmusical. It is on such assumptions that musical ability is fostered or anesthetized in many modern industrial societies’ (Blacking 1974, p.34).

Ironically, the proportion of musicians with outstanding technical skills within Sage Gateshead may mitigate against individual perceptions of personal musicality in the wider population of the organisation. In turn, this might be seen as a reflection of musicality more widely in western society, where the predominance of presentational (Turino 2008) forms of music might be seen to contribute to fewer individuals believing they can achieve the necessary technical standard to be considered ‘musical’.
6.1 Limitations

There were a number of limitations to this study, the most obvious of which was the lack of statistical significance which an analysis of the data returned. Even if I had found any marked differences in response between musicians and non-musicians, any such differences would have been easily refuted because of this. However, the main findings did not support my ‘abductive inference’ (Plowright 2010, p.112) about a ‘musical’ culture driving Sage Gateshead. On a positive note, at least the results of the survey did not contradict this inference.

There were other limitations too:

6.1.a. Bias

Another obvious limitation of the survey is that it was self-selecting, and that it would therefore be reasonable to assume that the people most likely to be interested in completing the survey would be those with an existing interest in music. In that sense, the survey might be considered to be tautologically flawed, as those people inclined toward the assumed conclusion of transferability between domains would be more likely to engage with it in the first place. This would be more pronounced within the population of Sage Gateshead. As employees are expected to have a passionate interest in music, as a group they would likely be more disposed toward the anticipated outcomes of the survey.

As already mentioned, the respondents identified through social media were all ‘friends’ of mine on Facebook. As a musician, I probably have a higher proportion of ‘friends’ in my social network who are also musicians, and also am likely to have a higher proportion of ‘friends’ with a keen interest in music, thus introducing further bias and subjectivity into the results.

6.1.b. Lack of correlates

The questionnaire had been self-designed, and did not therefore correlate with existing sociometric measures like Apter International’s
Telic State Dominance Measure (TDSM) or the Telic State Measure (TSM). I pursued the opportunity to corroborate my data with the TDSM for a while, but once it became apparent that my own data was inconclusive even on its own, it became a less relevant avenue to explore. Similarly, there were no psychophysiological – or other - correlates of the data collected. The only measures I had were sociometric ones, which on their own are less robust than what a ‘triangulation’ of data with other measures would have been (Apter 2007, p.104).

6.1.c. Assumptions about musical preference

When designing the questionnaire, I had rather naively assumed that there would be a correlation between levels of individual musicality, and the relative complexity of music that those individuals preferred to listen to. As I quickly realised, it’s ‘a bit more complicated than that’ (Goldacre 2014). As Daniel Levitin summarises:

‘The appreciation we have for music is intimately related to our ability to learn the underlying structure of the music we like—the equivalent to grammar in spoken or signed languages—and to be able to make predictions about what will come next.’ (Levitin 2008, p.111)

‘When a musical piece is too simple we tend not to like it, finding it trivial. When it is too complex, we tend not to like it, finding it unpredictable – we don’t perceive it to be grounded in anything familiar. Music, or any art form for that matter, has to strike the right balance between simplicity and complexity in order for us to like it.’ (Levitin 2008, p.234)

The preference that individuals might have for music listening is contingent on many factors, including current and desired states of arousal, other activities engaged in, underlying health issues, previous musical experience, emotional state and many others, all of which change on a regular basis (MacDonald et al. 2013). While music might
assist in mediating some of these variables, it is less meaningful to talk of musical preference as a fixed quality, which was implied by the design of some of my questions.

6.1.d. Sampling Framework
There was no adjustment to account for the potential musical bias of people responding via my social media networks. As a musician, I probably have more musician friends, who may in turn be more inclined to support a fellow musician researching a musical area. I had not adjusted my sampling framework to account for this.

6.1.e. Philosophical Challenges
A further serious limitation of the research is the implied direction of causality between musicality and professional agency. With hindsight, and the benefit of other people’s research (Costa-Giomi 2013) it is easy to see the flawed assumptions in my initial approach, believing that music - as the common factor in some people’s professional identity – must also have a causal impact on that identity. Of course, there could be many other factors in how individuals develop agency in professional settings, and build up facility in complex professional situations, including the simultaneous processing of complex levels of information.

Section 7: Conclusion and Implications
The hypothesis that the psychological states involved in ‘musicking’ are transferable outside of musical domains was not supported by the study. The responses of both musicians and non-musicians to statements about non-musical activities revealed no significant differences, suggesting that both musicians and non-musicians experience non-musical professional situations in similar ways. That said, the study did reveal results that broadly support other perspectives. In my study, respondents tended to perceive themselves to be more ‘playful’ when engaged in music, supporting the idea that music promotes pro-social behaviour and team work. Some of the findings support Blacking’s notion that ‘technological development brings about a degree of
social exclusion’ (Blacking 1974, p.34) in terms of music, and much of the qualitative data supports the ‘arousal and mood hypothesis’ (Ho et al. 2007; Schellenberg 2013) of music.

While these are perhaps not surprising conclusions, the study itself was by no means fruitless. In pursuing the enquiry, a much richer and more complex field of discovery emerged, which challenged my thinking, and ultimately supported the development of more sophisticated lines of future enquiry within my doctoral studies, and my aspirations for post-doctoral research. Some of the differences in responses to ‘musicking’ and ‘non-musicking’, by both musicians and non-musicians, revealed some interesting new territory about the experience of ‘musicking’ which piqued my interest, and has ultimately led me toward an academic interest in the opportunities for ‘interpersonal resonance’ (Siegel 2011, p.138) that music appears to afford, which might support group cooperation and individual wellbeing. This has already resulted in collaboration with other academics around the field of Interpersonal Neurobiology (Siegel 2012; Siegel 2011; Sice et al. 2015), and some academic papers on the subject (Camlin 2015c; Camlin 2015b)

For those with a predisposition to be musical, music may be the vehicle through which they actualise their fullest sense of themselves and give their experiences meaning, but self-actualisation is clearly not exclusively musical. The full range of psychological experience is available to every human being with the capacity for it, and music may be just one way of feeling ‘whole’ which is particularly pertinent to those who spend a significant part of their time engaged in musical activities. For others, it might be sport, or hiking, or cooking, or whatever. In Viktor Frankl’s conception of *logos* or ‘meaning’, ‘we can discover the meaning of life in three different ways: by creating a work or a deed; by experiencing something or by encountering someone; by the attitude we take toward unavoidable suffering’ (Frankl 1946, p.2). For some, music might be the means to realise at least the first two of these criteria, if not the third, but it is not an exclusive relationship.
Where does that leave us in terms of music’s value? Is music, as Stephen Pinker suggests, ‘nothing more than auditory cheesecake’ (Mithen 2007, p.5) and ‘the making of plinking noises’? (Pinker 1995) I don’t think so, but one of the many things I have learned from conducting this study is that developing a more robust argument in defence of music’s power means building robustness into research design, and ensuring that as well as the qualitative data that will always be more easily accessible from capturing people’s experiences of music, we need to have much more precise means, with measurable outcomes, that we can correlate those qualitative experiences with. Because music is ‘ubiquitous’ (MacDonald et al. 2013), and an almost universal feature of human society, everyone has a view on music, and it easy to assume many things about it. Indeed, the impetus for this study was based on a flawed – or at least incomplete - assumption about the transferability of musicality beyond musical domains. Articulating a stronger case for music’s power means being willing to systematically test some of these assumptions to destruction in the way I have done herein, through more rigorous correlation with measurable outcomes.
Section 8: References


Section 9: Appendices

A number of appendices of data and information used in the generation of findings are available from University of Sunderland website, or by personal request to dave@davecamlin.co.uk:

9.1 Matrix of questionnaire questions / Reversal Theory states
Matrix mapping survey questions against Reversal Theory States.

9.2 Questionnaire Information Sheet
Information Sheet used in the design of the questionnaire to satisfy ethics approval.

9.3 Application for Ethics Approval
The submitted application for ethics approval

9.4 Questionnaire for Sage Gateshead individuals
Copy of the questionnaire administered with people inside Sage Gateshead

9.5 Questionnaire for non-Sage Gateshead individuals
Copy of the questionnaire administered with people inside Sage Gateshead

9.6 Full questionnaire results

9.6.a. Summary of Responses
List of survey responses in terms of Reversal Theory ‘domains’

9.6.b. Summary of Reversibility 1
Summary of reversibility responses, emphasising levels of ‘playfulness’ across the survey population

9.6.c. Summary of Reversibility 2
Comparative results in both musicking and non-musicking activities, in terms of reversibility within ‘domains’
9.6.d. Reversibility Scores
Summary of response in terms of Reversal Theory 'states' and 'domains'

9.6.e. Average Ranges 2
Summary of average ranges of response within Reversal Theory across survey population

9.6.f. Ranges
Data on individual responses, in terms of ranges of response within Reversal Theory 'domains'

9.6.g. Average Scores 2
Summary of average scores across survey population in terms of Reversal Theory 'states'

9.6.h. Scores
Data on individual scores, in terms of Reversal Theory 'states'

9.6.i. Percentages
Comparative summary of Reversal Theory 'states' against musicking and non-musicking

9.6.j. Summary of survey responses
Summary of main biographical / qualitative data

9.6.k. Average Scores 1
First draft of appendix 9.6g

9.6.l. Average Ranges 1
First draft of appendix 9.6 e