The Relationships Between Genre Preference, Aural Skills, and Tonal Working Memory

Elizabeth Monzingo,1 Emily M. Elliott,2 Daniel Shanahan,3 David John Baker,4 Juan Ventura,5 and Katherine Vukovics6

1,3,4,5,6 Music Theory, Louisiana State University, U.S.A.

2 Psychology, Louisiana State University, U.S.A.

1emonzi1@lsu.edu, 2eelliott@lsu.edu, 3dshanahan@lsu.edu, 4dbake29@lsu.edu, 5kvukov1@lsu.edu

Abstract

Previous research suggests that academic success, musical aptitude, and musical experience affect aural skills achievement (see Harrison, Asmus, & Serge, 1994). However, measurements of academic success are often limited to course grades or aptitude tests, and researchers seldom investigate musical experience beyond quantifying years of musical involvement. Findings from recent studies warrant the inclusion of memory tasks and a closer examination of previous musical exposure in the study of aural skills proficiency. Musicians have been found to perform better than nonmusicians in memory tasks, especially those with tonal stimuli (Talamini et al., 2017), and the mere exposure to music –specifically, the exposure to specific genres– can affect one’s performance of musical tasks (Honing & Ladinig, 2009). In this study, we examine aural skills experience as it relates to measures of tonal working memory and musical sophistication, and we explore aural skills proficiency as it relates to musical experience through genre preferences. Participants completed a number of tests measuring cognitive ability, musical sophistication, aural skills experience, and musical genre preferences. Variables collected include: working memory capacity for tone recall as measured by a tonal working memory task (ToneSpan); melodic memory and beat perception accuracy as measured by the Goldsmiths Musical Sophistication Index (Gold-MSI; Müllensiefen, et al., 2014); aural skills experience as measured by self-reported number of courses in aural skills and/or number of years of private instruction in melodic dictation, harmonic dictation, and sight-singing; and genre preferences as collected by the Short Test of Musical Preferences (Rentfrow & Gosling, 2003). Genre preferences were then scored for compatibility with common practice basic tonal patterns. Preliminary results (N = 76) reveal a significant and positive correlation between performance on the ToneSpan task and General musical sophistication from the Gold-MSI, r = .38. The participant range of aural skills experience is limited; however, primarily first-year music students and non-music students have participated at this point. Targeted data collection with more experienced music students is in process. This study suggests that tonal working memory is related to musical sophistication and aural skills experience, and genre preferences correlate with aural skills proficiency.

Congratulations on the acceptance of your talk/poster submission to ICMPC15/ESCOM10. Please use this document as a template for your proceedings paper. Proceedings contributions are voluntary and may only be submitted by first authors of accepted talk/poster submissions. For the purpose of proceedings, posters and talks are treated equally in every respect. The easiest approach is to type your materials directly into this document. Just triple-click on any paragraph and start typing. Later, delete the rest. It is a good idea to keep an unchanged version of this template for comparison. If you cut and paste from another document, be sure to remove all formatting first. One option is to copy and paste to a text-only editor, then copy and paste again into the template. Word makes it easier: right-click where you want to insert the text and select “text only” from the different paste options. To write this abstract, please shorten and revise your original 500-word abstract, omitting headings, paragraph breaks, and references. Please also consider reviewers’ comments. Of course you should also include any new data. The length of this abstract should be between 200 and 300 words, although your original abstract was up to 500 words. The abstract heading uses 12-point Times New Roman Bold, and it is centered. The body of the abstract uses 9-point Times New Roman.

Introduction

Recent research has examined the relationships between musical sophistication and various cognitive abilities, and the findings warrant the inclusion of working memory tasks in the study of musicianship (see Silvia et al., 2016, Slevc et al., 2016, & Swaminathan et al., 2016). Musicians have been found to perform better than nonmusicians in memory tasks, especially those with tonal stimuli (Talamini et al., 2017). The mere exposure to music—specifically, the exposure to specific genres—can affect one’s performance of musical tasks (Honing & Ladinig, 2009).

A large component of the core curriculum in undergraduate music degrees is the instruction of aural skills, which includes the instruction of melodic and harmonic dictation. One way of thinking of dictation is as a tonal working memory task: students are presented with tonal stimuli which they must retain in their working memory as they re-compose the tonal stimuli onto staff paper.

In this study, we examine musical sophistication and aural skills proficiency as predictors of tonal working memory, and we explore aural skills proficiency as it relates to musical experience through genre preferences and applied instrument.

All conference participants whose submissions were accepted as long papers, short papers, and posters are invited to contribute to the proceedings. Contribution is voluntary. ***To be included, your contribution should be uploaded to ConfTool in Word format by 31 May 2018.*** To access ConfTool, use the same password as you used to submit your original abstract.

Before submitting your proceedings contribution, please check carefully that the format conforms to this original template. Specifically, check the title and author block, section headings, document margins, column width, column spacing, and right margins. Proceedings papers should ideally be 4 pages long, but we will accept between 2 and 6 pages and a maximum file size of 2 MB.

This template is similar to templates used in previous ICMPCs and ESCOM triennials. The main difference is a new focus on American Psychology Association (APA) format. Because many conference participants are familiar with APA format, we have tried to keep the format of this document as close to APA as possible.

Incidentally, the previous paragraph shows you how to use abbreviations such as “APA”. The first time any abbreviation appears should be in parentheses following the unabbreviated term or expression. Only use abbreviations if they are already well known by your target readers or occur frequently in your text.

Method

Participants completed a number of tests measuring cognitive ability, musical sophistication, aural skills experience, and musical genre preferences. Variables collected include: working memory capacity for tone recall as measured by a tonal working memory task (ToneSpan); melodic memory and beat perception accuracy as measured by the Goldsmiths Musical Sophistication Index (Gold-MSI; Müllensiefen, et al., 2014); aural skills experience as measured by self-reported number of courses in aural skills and/or number of years of private instruction in melodic dictation, harmonic dictation, and sight-singing; and genre preferences as collected by the Short Test of Musical Preferences (Rentfrow & Gosling, 2003). Genre preferences were then scored for compatibility with common practice basic tonal patterns.

The paper size/shape of proceedings contributions must be on A4, which is 210 mm (8.27") wide and 297 mm (11.69") high. Margins are set as follows:

* Top = 22 mm (0.87")
* Bottom = 25.4 mm (1")
* Left = Right = 14 mm (0.55")

The two columns have a space of 5 mm (0.2") between them. If you retain the formatting of this document, you will not need these numbers.

Results

Preliminary results (N = 76) reveal a significant and positive correlation between performance on the ToneSpan task and General musical sophistication from the Gold-MSI, r = .38. The participant range of aural skills experience is limited; however, primarily first-year music students and non-music students have participated at this point. Targeted data collection with more experienced music students is in process.

The first line of every paragraph is indented by about 5 mm. All regular text (except text after bullet points) must be justified on both the left and the right to create straight margins on both sides.

Title Case

The title of your paper and all level-1 and level-2 headings should be in *title case*. By that we mean that all words should begin with a capital letter except articles (the, a), prepositions (on, between), and conjunctions (for, and, but). If you are unsure, check whether the word in question is included in the following alphabetical list: “a,” “an,” “and,” “as,” “at,” “by,” “for,” “from,” “if,” “in,” “into,” “on,” “or,” “of,” “the,” “to,” “with.” In general, words of this kind should not be capitalized. If you are unsure, play it by ear.

Title and Author Details

**Paper title.** The paper title is in **14-point Bold Font**. The author names are in 11-point Regular Font. Author affiliations are in *10-Point Italic*. E-mail addresses are in 9-point regular font. The paper title and author details are in single-column format and centered. There should be no period (no full stop) after the title.

**Author details.** These should not include academic titles (e.g., Dr.), or professional titles (e.g., Managing Director). The family name should always be last (e.g., John A. K. Smith). Do not split an author name into 2 lines. Each affiliation must include, at the very least, the name of the institution/company and the name of the country where the author is based (e.g., Ghent University, Belgium).

**E-mail address.** This is optional for each author. Most papers include all email addresses but sometimes one or more are omitted. E-mail addresses should be separated with a comma followed by a space. Do not split an e-mail address into two lines.

Text Font

The entire document is in Times New Roman font. Other font types may be used if needed for special purposes. Recommended font sizes are shown in Table 1.

Table 1. Font sizes used in this template. Note that this table caption has been placed above the table, whereas figure captions are below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Font Size** | Font style | | |
| Regular | Bold | Italic |
| **9** | Author e-mail addresses  Abstract text  Text within tables  References | Table captions  Figure captions | Titles of books and journals in references |
| **10** | Regular text | Level-2 headings  Level-3 headings | Author affiliations |
| **11** | Author name(s)  Bullet-point text |  |  |
| **12** |  | Abstract heading Level-1 headings |  |
| **14** |  | Title of paper |  |

Section Headings

No more than three levels of headings should be used. Sometimes one level is enough. Most people use two levels. We follow APA format but additionally require bolding and different font sizes. Headings are not numbered.

**Level-1 headings.** Like the title but with smaller font: 12-point bold, capitalized, and centered.

**Level-2 headings.** Like level-1 headings but with smaller font and flush with the left margin: 10-point bold, capitalized, and left-justified.

**Level-3 headings.** Within an indented paragraph, ending with a period (full stop). Only the first letter of the first word is capitalized; exceptions include proper nouns such as “Sally” “Melbourne”, or “Heineken”. The body of the level-3 section immediately follows the level-3 heading in the same paragraph. This paragraph begins with a level-3 heading.

A familiar example of section headings is the method section of an empirical paper. The word “Method” is usually a level-1 heading. It is often immediately followed by “Participants”, which is a level-2 heading.

Figures and Tables

Figures and tables must be centered in the column. Large figures and tables may span across both columns. Any table or figure that takes up more than one column width should be positioned either at the top or at the bottom of the page.

Black-and-white graphics are preferable because they are readable when printed with regular printers. Graphics may be in full color if there is a good reason. Do not use stipple fill patterns because they may not be reproduced properly. Please use only *solid fill* colors, which contrast well both on screen and on a black-and-white hardcopy, as shown in Figure 1.

gv_figure_4

Figure 1. A sample line graph using colors which contrast well both on screen and on a black-and-white hardcopy. The figure caption should be placed below the figure.



Figure 2. Example of an unacceptable low-resolution image

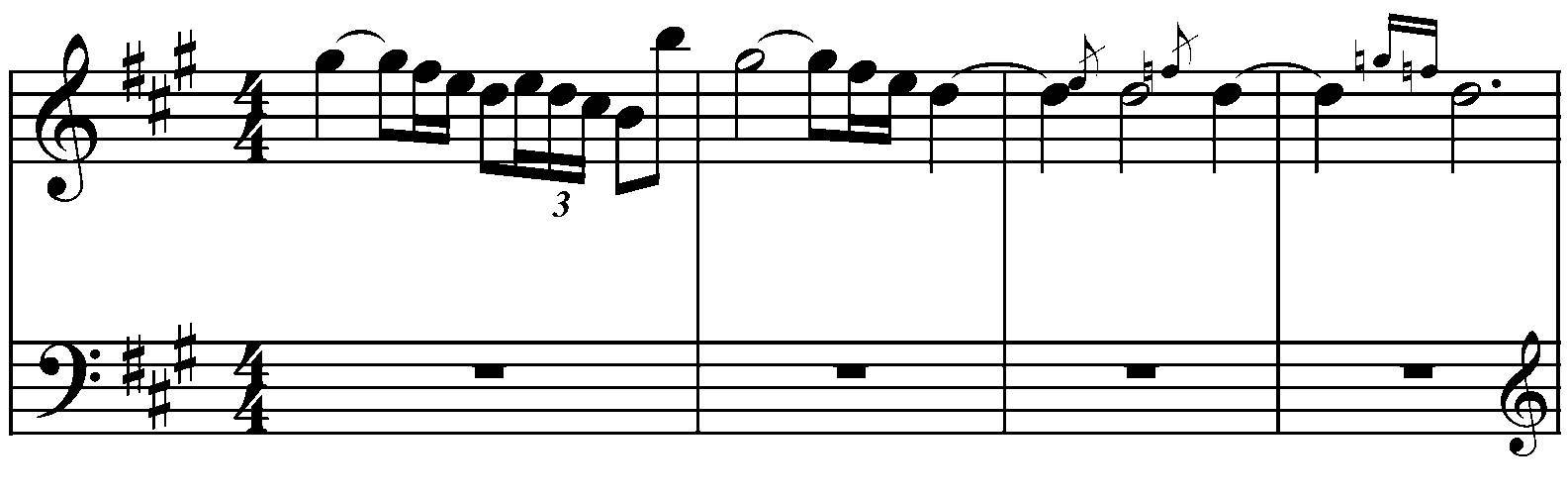


Figure 3. Example of an image with acceptable resolution

Figure 2 shows an example of a low-resolution image that would not be acceptable. Figure 3 shows an example of an image with adequate resolution. Check that the resolution is adequate to reveal the important detail in the figure.

Please check all figures in your paper both on screen and on a black-and-white hardcopy. When you check your paper on a black-and-white hardcopy, please ensure that:

* the colors used in each figure contrast well;
* the image used in each figure is clear;
* all text labels in each figure are legible.

Figures or tables must not be split across columns or page breaks. To avoid this problem, change the order of your text.

Figure Captions

Figures are numbered using Arabic numerals (Figure 1, Figure 2 and so on). Figure captions are in 9-point font. Captions of less than one line (e.g., Figure 2) should be centered, whereas multi-line captions should be justified at both right and left (e.g., Figure 1). Figure captions are placed below figures.

Table Captions

Tables are numbered using Arabicnumerals. Table captions are centered and in 9-point bold font. Only the first word of a sentence is capitalized. Captions are placed above their associated tables, as shown in Table 1.

Page Numbers, Headers, and Footers

Please do not use page numbers, headers, or footers. These will be added later. There is no need for a running head.

Please ensure that the heading of each section is on the same page or in the same column as the corresponding text. If the heading is on a different page, rearrange the text to solve the problem or insert a line break.

Links and Bookmarks

Embedded hypertext links and section bookmarks will be removed from papers during processing for publication. If you need to refer to an internet e-mail address or URL in your paper, type out the address or URL in regular font.

References

The heading of the reference section is a regular level-1 heading. Items in the reference list are in 9-point font. Please follow APA style closely. If you are unsure, follow the examples in the following list or look up an APA guideline in the internet. List references in alphabetical order of first author. When citing works in a language other than English, give the original title followed by an English translation in square brackets. When citing a conference presentation, “Paper presented” refers to a talk or spoken presentation whereas “Poster presented” refers to a poster. It is ok to break a URL into two in order to improve the spacing of words in the previous line. URLs should not be underlined. In the following list, don’t forget to **delete the bold red text**.

Conclusion

This study suggests that tonal working memory is related to musical sophistication and aural skills experience, and genre preferences correlate with aural skills proficiency.

This template was inspired by previous ICMPC and ESCOM templates. Since many conference participants are familiar with APA style, we also followed that as closely as possible.

**Acknowledgements.** If you wish to include acknowledgements in your proceedings contribution, start with a regular level-3 heading and place the text just before the reference list. We thank everybody who has shown interest in ICMPC15/ESCOM10 and submitted to the program. We look forward to seeing you in La Plata, Sydney, Montreal, or Graz.

References

\*\*\*put into APA format\*\*\*

Harrison, Carole S., Edward P. Asmus, and Richard T. Serpe. 1994. “Effects of Musical Aptitude, Academic Ability, Music Experience, and Motivation on Aural Skills.” Journal of Research in Music Education 42 (2). SAGE Publications Inc: 131–44.

Honing, Henkjan, and Olivia Ladinig. 2009. “Exposure Influences Expressive Timing Judgments in Music.” Journal of Experimental Psychology. Human Perception and Performance 35 (1): 281–88.

Müllensiefen, D., Gingras, B., Musil, J., & Stewart, L. (2014). The musicality of non-musicians: an index for assessing musical sophistication in the general population. PloS one, 9(2), e89642.

Rentfrow, Peter J., and Samuel D. Gosling. 2003. “The Do Re Mi’s of Everyday Life: The Structure and Personality Correlates of Music Preferences.” Journal of Personality and Social Psychology 84 (6): 1236–56.

Talamini, Francesca, Gianmarco Altoè, Barbara Carretti, and Massimo Grassi. 2017. “Musicians Have Better Memory than Nonmusicians: A Meta-Analysis.” PloS One 12 (10): e0186773.

American Psychological Association (2001). *The publication manual of the American Psychological Association* (5th ed.). Washington, DC: American Psychological Association. **book**

Bender, L. (Producer), & Tarantino, Q. (Director). (1994). *Pulp fiction* [Motion Picture]. United States: Miramax. **film**

Bharucha, J. J. (1991). Pitch, harmony, and neural nets: A psychological perspective. In P. Todd & G. Loy (Eds.), *Music and connectionism* (pp. 84-99). Cambridge, MA: MIT Press. **chapter of an edited book**

Chopin, F. (1988). Ballade No. 1 in G minor, Op. 23 [Recorded by K. Zimerman]. On *Vier Balladen* [Four Ballads; CD]. Hamburg: Polydor International GmbH. **recording**

Considine, M. (1986). Australian insurance politics in the 1970s: Two case studies. (Unpublished doctoral dissertation). University of Melbourne, Melbourne, Australia. **dissertation**

Doutre, É. (2014). Mixité de genre et de métiers: Conséquences identitaires et relations de travail [Mixing gender and trades: Consequences for identity and working relationships]. *Canadian Journal of Behavioural Science/Revue Canadienne des Sciences du Comportement, 46,* 327–336. **journal article not in English**

Fry, A. L. (1993). *U.S. Patent No. 5,194,299.* Washington, DC: U.S. Patent and Trademark Office. **patent**

Himes, A. (Producer), & King, R. (Director). (2005). *Voices in wartime* [Documentary film]. United States: Cinema Libre Studio. **film**

Huizenga, T. (2007, September 16). *Maria Callas, the legend who lived for her art*. Retrieved from http://www.npr.org/ templates/

story/story.php?storyId=14404970 **internet page**

Korenman, L. M., & Peynirchioglu, Z. F. (2004). The role of familiarity in episodic memory and metamemory. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 30*, 917-922. **journal article**

Leman, M. (2016). *The expressive moment: How interaction (with music) shapes human empowerment.* Cambridge, MA: MIT Press. **monograph**

Lehrer, T. (2000). (I’m spending) Hanukkah in Santa Monica. On *The remains of Tom Lehrer* [CD]. New York, NY: Rhino. **recording**

Lindberg, S. M., & Hyde, J. S. (2007, March). Mother-child interactions during mathematics homework: Socialization of gender differentiation? Poster presented at the biennial meeting of the Society for Research on Adolescence, Chicago, IL. **poster at a conference**

Mastropieri, D. P. (1996). The influence of prenatal experience on differential responsiveness to vocal expressions of emotion in newborns. *Dissertation Abstract International*, *57*(05), 3433B. (UMI No. 9630490) **dissertation (abstract only)**

Mito, H., & Miyazaki, K. (1994). Detection of modified tones in well learned musical pieces by absolute pitch possessors. In I. Deliege (Ed.), *Proceedings of the Third International Conference on Music Perception and Cognition* (pp. 137-138). Belgium: Université de Liège. **contribution to conference proceedings**

Nguyen, C. A. (2012, August). Humor and deception in advertising: When laughter may not be the best medicine. Paper presented at the meeting of the American Psychological Association, Orlando, FL. **spoken presentation at a conference**

Parncutt, R., & McPherson, G. E. (Eds.) (2002). *The science and psychology of music performance: Creative strategies for teaching and learning.* New York: Oxford University Press. **edited book**

Shears, G. (Executive Producer). (1993). *La Boheme* [Television broadcast]. Sydney: Australian Broadcasting Cooperation. **TV show**