**Research Skills: Lab Session 1.**

**Music and dance sophistication and their relationships with musical preferences**

**Introduction**

Measures of musical abilities and achievement have a long history in music psychology. In 1919 Carl Seashore published a first version of his tests of musical abilities. The test incorporates a number of simple melodic and rhythmic memory tasks for which right and wrong answers can be scored and when summed together are assumed to measure an individual’s musical abilities. The Seashore test also comes with data norms that indicate how musical abilities are distributed in the general population to give users of the test a frame of orientation.

A considerable number of similar listening tests have been published since (e.g. the Wing test, the Bentley test, Gordon’s Measures of Audiation, the Musical Ear Test). Most of these tests bear a relation to ear training exercises known from western classical music education and therefore it comes as no big surprise that individuals with formal music training in western art music typically achieve higher scores on these tests. However, these traditional tests of musical achievement overlook a variety of musical achievements or skills such as the ability to verbally communicate about music at a high level, to use music effectively to manipulate the emotional states of one’s self and others or to classify sounds and precisely recognise and categorise musical genres. Thus, in order to assess musical skills and achievements – many of which form the basis of musical professions such as DJs, music journalists, or producers of functional music – in a more comprehensive way Müllensiefen, Gingras, Musil and Stewart (2014) devised the Goldsmiths Musical Sophistication Index (Gold-MSI).

The Gold-MSI is designed as a self-report questionnaire together with a companion suite of objective listening tests that cover several different aspects of musical structure (e.g. rhythm, melody, timbre). The Gold-MSI was explicitly designed to minimise any bias towards or against specific musical styles or genres (e.g. western art music). The Gold-MSI distinguishes five different sub-factors and a general factor of musical sophistication (Müllensiefen et al., 2014 and the Gold-MSI home page at gold-msi.org).

In a similar way the Goldsmiths Dance Sophistication Index (Gold-DSI, Rose, Müllensiefen, Lovatt, & Orgs, 2020) aims to assess skills and experience with regards to all types of dance, while being neutral to specific genres of dance or music. The Gold-DSI comprises one self-report scale for dance participation which consists of four subscales and one inventory for observational dance experience which consists of a single subscale (Rose et al. 2020).

Lab session 1 seeks to investigate this assumed genre neutrality of the Gold-MSI and the Gold-DSI by comparing scores on the Short Test of Musical Preferences (STOMP, Rentfrow & Gosling, 2003), a standard measurement instrument for musical genre preferences, with scores on the dimensions of the Gold-MSI and Gold-DSI self-report questionnaires.

**Instructions**

Go to http://shiny.gold-msi.org/rs\_lab1 and fill in the short battery of questionnaires containing the Gold-MSI, Gold-DSI, and the STOMP self-report inventories. Please work independently and at your own pace. Also, fill in your student number (starting with ’33’) which will enable us to re-use the Gold-MSI and Gold-DSI data as variables for future reports labs as well.

Once entered the data from all students will be saved to one master file that contains the raw data of all participants, including basic demographic information as well as the raw data of all individual Gold-MSI, Gold-DSI and STOMP question items. However, this raw data still needs to be scored, i.e. any negatively phrased items need to be reverse coded and scores for all subscales need to be aggregated by taking the mean across all items that belong to the same subscale.

* For the Gold-MSI use the scoring app available at gold-msi.org.
* For the STOMP do the scoring by hand by calculating averages for the four music preference dimensions. Use the information in the file STOMP\_Items\_MetaGenres.xlsx, available on the VLE. Use only the items that are part of the STOMP 2003 versions.
* For the Gold-DSI do the scoring by hand following the information given in Rose et al. (2020) and in the file DSI\_items.csv available on the VLE.

Once the data from all three questionnaires are scored, investigate the hypothesis that musical and dance sophistication are independent of musical preferences.

**References**

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. doi:10.1371/journal.pone.0089642

Rentfrow, P.J., & Gosling, S.D. (2003). The Do Re Mi’s of Everyday Life: The Structure and Personality Correlates of Musical Preferences. *Journal of Personality and Social Psychology*, 84, 1236-1256.

Rose, D., Müllensiefen, D., Lovatt, P., & Orgs, G. (2020). The Goldsmiths Dance Sophistication Index (GOLD-DSI): a new psychometric tool to assess individual differences in dance experience. Psychology of Aesthetics, Creativity, and the Arts (in press).

For additional reading on musicality tests see e.g. chapter 10 in:

Radocy, R.E. & Boyle D.J. (2003). *Psychological Foundations of Musical Behaviour*. Springfield, IL: Charles Thomas.

**Writing up the Lab Session**

* Refer to the presentation given in Research Skills on how to write up a Lab Report
* Use the information provided in this handout as a starting point for your introduction but avoid plagiarising. Refer to the papers mentioned, as well as additional ones that you deem relevant.
* Formulate the aim of the comparison of Gold-MSI, Gold-DSI and STOMP score profiles in this study.
* Give a complete Method section.
* Represent the results both graphically (e.g. in scattergrams or line graphs) and in a table (include figure and table legends)
* Give a detailed account of the results using suitable summary and correlational statistics.
* Discuss your results in the context of the aims of the study and the literature you reviewed in the introduction.
* Add an abstract at the start, but write this last.
* 1500 words is the upper limit for the text but this excludes the abstract, references, and figure and table captions.

**You might find the following useful:**

* Learn.gold slides on Lab Report Writing
* Notes from Statistics and Experimental Design course
* Discovering Statistics using SPSS (for advice on how to word the output of statistical analysis in journal articles) and how to compute suitable graphs.