

## Project 3: Do You Hear Classical Or Popular Music?

You have already done most of the technical work for this project, in HW10. I hope you saved all of your work from HW10, including the parts you didn't submit for grading! This will be most of your technical appendix.

### IMRAD Paper

For the project itself, you should write a high-quality IMRAD paper with a technical appendix, based on HW10. The grading rubric is on p. 2 below, and some additional suggestions appear on p. 3. In addition, you should review the guidelines and reference materials from earlier in the semester for writing an IMRAD paper.

The project description is already in HW10. Please answer the following questions, based on your best linear regression and multi-level models from HW10, and other analyses (including EDA) if needed:

- What experimental factor, or combination of factors, has the strongest influence on ratings?
  - Does **Instrument** exert the strongest influence among the three design factors (**Instrument**, **Harmonic Motion**, **Voice Leading**), as the researchers suspect?
  - Among the levels of **Harmonic Motion** does *I-V-vi* have a strong association (the strongest?) with classical ratings? Does it seem to matter whether the respondent is familiar with one or the other (or both) of the Pachelbel rants/comedy bits?
  - Among the levels of **Voice Leading**, does *contrary motion* have a strong (the strongest?) association with classical ratings?
- Are there differences in the way that musicians and non-musicians identify classical music?
- Are there differences in the things that drive classical, vs. popular, ratings?

If you had to change the raw data in any way (e.g. deleting cases or variables, performing imputation, correcting mistyped data, deleting cases with crazy data, etc.), please describe what you did and provide justifications, as part of the data description in the Methods section. *However*, put any EDA and variable transformations in the Results section. It may also be the case that you used different versions of the data set for different questions. Please describe and justify this too, if you did so.

### Due Date

**Office Hours:** There will not be a rough draft submission (mostly, my schedule doesn't allow it). I will hold extra office hours Mon & Wed Dec 2 & 4, 11:30–12:30, and Friday Dec 6, 12–1.

**Required:** The due date for submitting a single pdf with your IMRAD paper and appendix is Fri Dec 6 at 11:59pm, with grace until Sunday Dec 8 at 11:59pm. There will be no peer reviews.

## Grading

Below is a summary of what I will be looking for. See material from earlier this semester for more detail on what is expected in an IMRAD paper.

Part	Looking For . .	Percent
Title	Clear, interesting, focused	5%
Author/Contact Info	Your name & email addr!	∞!!
Abstract	Summarizes I,M,R,D in 3–5 brief, clear sentences.	5%
Introduction	Brief, clear, to the point; context for the problem; What is the problem/aim of the study? What research questions will be answered?	10%
Methods	Study design; how was the data collected? Definition of variables & outcome measure(s); statistical methods; ethical considerations	10%
Results	Statistical analysis, results <i>and interpretations</i> in order parallel to Intro & Methods; no new methods or data; no big picture discussion	10%
Discussion	Recap findings, discuss big picture; address main problem/research questions; strengths & weaknesses; implications, unanswered questions, future research	10%
Mechanics	Follows C-C-C as much as possible (sentences, paragraphs & sections); Grammatical; Easy to follow	5%
Statistical Content	Correctly and appropriately uses technical and non-technical material we have learned in class. Easy to follow; Analysis makes sense/not crazy (roughly 10–15 points per research question)	40%
References & Citations	Follow ASA guide, “The Reference List” & “Reference Citations” (be sure to cite all sources!)	5%
Technical Appendix	Helps me to understand your paper and give you max points above; Easy to follow	0%

The formal grading rubric for your paper appears on the previous page. Here are some suggestions to help you get maximum points for your paper:

**Title:** Clear, interesting, focused.

- *The title should articulate the central question, or the central finding, of the paper, and should also draw the reader in.*

**Abstract:** Summarizes I, M, R, D in 3–5 clear sentences.

- *Make sure you hit the high points of all four sections in the Abstract.*

**Introduction:** Brief, clear, to the point; context for the problem; What is the problem/aim of the study? What research questions will be answered?

- *You should cite the data source either here or in the methods section.*

**Methods:** Study design; how was the data collected, and/or where did it come from? Definition of variables & outcome measure(s); statistical methods; ethical considerations.

- *The methods section **should be** about **naming** and identifying: what is the data and where did it come from; what are the definitions of the variables, what are the names of the methods you will be using in the results section, etc. There **should not be** any actual **doing** of statistics in the methods section.*
- *Please put all discussion of EDA and transformations in the Results section, not here.*

**Results:** Statistical analyses, results *and interpretations* in order parallel to Intro & Methods; no new methods or data; no big picture discussion.

- *Put EDA and/or variable transformations here.*
- *Every method that is used here should be named in the Methods section.*
- *Divide into subsections, as needed (e.g. one for each research question).*
- *Put enough technical detail (well-chosen graphs, tables and the occasional model equation, for example) that a reader will know you're not faking it and can follow your work at a high level. Any details that get in the way of the story can stay in the Appendix (but make sure I can easily find these details!).*
- *Cite specific pages in the Appendix that support each thing that you do in the Results section.*

**Discussion:** Recap findings, discuss big picture; address main problem/research questions; strengths & weaknesses; discuss implications, unanswered questions, future research.

- *No new statistical analysis in this section. All statistical analysis belongs in the Results section.*
- *The point of “recap findings, discuss big picture” is to help the skim reader see what you've done and why it might be important.*
- *Feel free to re-use material from the last question in HW10 as (part of) the discussion section.*

**Appendix:** All of the technical details.

- *Most of your technical appendix is already done. It is your HW10!*
- *You may want to add a couple of things, and/or correct mistakes in your HW10. That is fine. (And if you don't need to add or correct anything, that's great too.)*
- *You may need to lightly reformat or reorganize your solutions to HW10 so that they better tell the story of your technical analyses. That is fine too. (And if you don't need to reformat, that's great too.)*

**Figures, Tables and References:** Each figure or table in the main paper, and each reference in the reference section, should be cited at least once in the body of the paper.

In addition you should use good mechanics throughout the paper. This means: following C-C-C structure as much as possible, using subsections and other devices to make clear to the reader each phase of your work, checking for grammar and typos, making the paper as easy to follow as possible, etc.