

Musical Memory – Kohler lab + Joe Gati meeting  
May 11 + 12, 2017

**Experiment Notes:**

- The plan is to use the 7T and Conor says we shouldn't have any issues with our ISS using multi-band
- Have a fixation cross in the scanner – don't need it in the Eprime script, can do it through the MRI projector
- We should collect information on how much they like the songs in session 1 and session 2
  - watch how liked ratings change as familiarity increases (affect and valence) - Mere exposure effect (Peretz et al, 1998)
- In an early in-lab session, we should ask participants to describe any associations they have with each of the songs they're training on – track how that changes over (first lab session + final fmri session)
  - What does it remind you of? How would you categorize it? What band does it remind you of?
  - Subjective reports of how 'familiar' this song is compared to songs that they are the most familiar with in the real world. 'Compared to a song that is one of the most familiar songs to you, how well would you say you know this song'.
  - What is the gist of the song?
- If we use the term familiarity in the paper need to make sure we define it – may want to consider using a more general term like recognition.
- Create more specific hypotheses
- Pilot how much scores on familiarity tests increase after one listen (at the end of the first fMRI session? Or end of first lab session?)
- In real-world, memory for music may well be very well tied to the affective component.

**Other assessment ideas:**

- Play a piece of music and ask them to reproduce the lyric in response to that. Assesses that even though we're testing on lyrics, they do have memory for music itself.
- Can we assess melody and lyric familiarity as being the same (in degree)? You want to say unique networks, but maybe it's just that they have better memory for one.

**Other (future?) ideas:**

- Music in an unfamiliar language. Reduces impact of semantics.
- More synchronized if you are a lyric person or not?
- Parametric—more than 2 scanning sessions? Might have 3 time points, get a handle on task difficulty.
- Follow up in 18 months? What do they remember?

**Defining musical memory discussion:**

- Familiarity—could just have a sense of familiarity.
- Jordan's thoughts on it: Recollective case—can replay song in your head.
- Item-specific (which is like episodic), but does unfold over time.
- Episodic is contextual. Can be in space or in time.
- The other sense it is episodic is that it has a within event timing sequence.
- Associative component as well—music and lyrics with each other.
- You don't 're-experience' the first time you heard it? That makes it not episodic.
- Is it hippocampally dependent?
- Multiple training means that you aren't really doing episodic anymore (we're not trying to get at that, but theoretically could happen—people could remember first hearing).
- But is also beyond familiarity—not just a sense of familiarity, like you get with one hearing.
- Rich associative memory? Not a traditional item that is tested in memory world. Maybe the equivalents of the items are small chunks of music.
- Stefan – In the traditional sense of episodic—we probably don't fit the bill.
  - “you are interested in the impact of familiarity on neural correlates of music perception rather than \*assessment of familiarity\* as we typically examine in my lab. From that perspective, the exact measurement you use to probe familiarity offline, and the corresponding theoretical framework, may indeed be less critical.”
- If you think of it as semantic—you integrate this into your general knowledge base. An abstraction. Do we think of it like this?