

# Psychological features extracted from lyrics show promise for various MIR tasks

## “Butter Lyrics Over Hominy Grit”:

comparing audio and psychology-based text features on MIR tasks

Jaehun Kim, Andrew M. Demetriou, Sandy Manolios, M. Stella Tavella, Cynthia C. S. Liem

### What was our goal?

An exploratory study to investigate the potential of extracting **psychological features** from lyrics to solve MIR tasks.

### What features did we use?

**Values:** the most important things for people in life

**Personality:** stable psychological traits

--baselines--

**Linguistic:** simple features such as total words, or unique words

**Topics:** 25 topics extracted using pLSA

**LIWC:** ~70 category dictionary

**Audio:** MFCCs

### Analysis Results

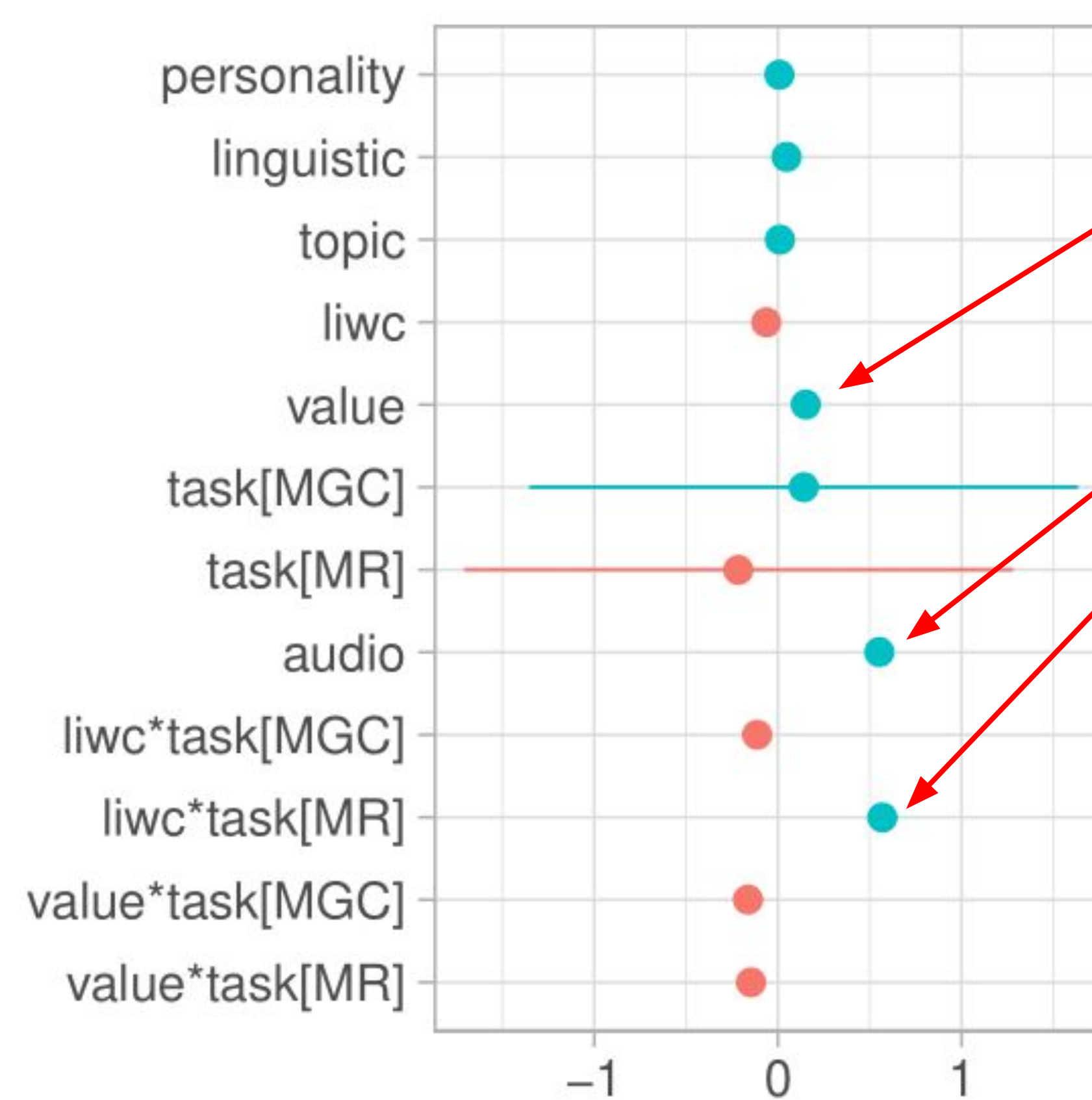


Figure 3. Parameter estimates of hierarchical linear model. Error bars are 95% confidence intervals. Interaction terms are denoted with the “\*” symbol.

### What the results show

- Values show a small but significant positive effect
- Values performed better for autotagging (not shown) than other tasks
- Audio features showed the strongest positive effect.
- LIWC performed better for music recommendation than other tasks
- Personality performed poorly

### Why does this matter?

- Psychological features are relatively interpretable compared to other text-based features
- They are also understudied and could be very useful in various MIR tasks
- Validly extracted psychological features could be useful for studying lyrics at a large scale, for social science and musicology

## METHOD

