Implicit Learning of Musical and Linguistic Structures?

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**What we recently observed**

Music experts > Language experts in implicit learning of linguistic structure.

**What we know**

Music and language training both improve executive functions, which are involved even in implicit learning tasks.

**METHODS**

**Participants**

4 types of experts selected on the basis of detailed biographical questionnaires
- 14 music experts
- 14 bi- or multi-linguals
- 8 dual experts (bi- or multi-linguals also experts in music)
- 14 speech-therapists

**Material**

Material created by Schön et al. (2008):
- correspondence syllable/pitch
- 6 trisyllabic nonsense “words” sung on 6 three-tone melodies.

**Procedure**

- **Listening task**: Listening attentively to 7/30 of the continuous stream of “sung words”
  - Part-words constructed with the same syllable set as words
  - Part-“melodies” constructed with the same tones set as melodies

**RESULTS**

- **Linguistic test**
  - Expertise effect
  - \( F(3, 49) = 5.92, p = .002, \eta^2 = 0.28 \)
  - Only speech-therapists differed from the other groups

- **Musical test**
  - No expertise effect (\( p = .25 \))

**QUESTIONS**

1. Performances as a function of type of language training: formal late vs. informal early training?  
2. Formal training in music = informal training in language?  
3. What about double expertise?

**CONCLUSIONS**

1. Performances as a function of type of language training:
   - **YES**
   - No benefit of formal language expertise on implicit learning of linguistic (or musical) structure.

2. Formal training in music = informal training in language:
   - **YES**
   - Informal language training and music expertise lead to similar abilities to implicitly learn linguistic – but not musical – structure.

3. What about double expertise?
   - **PARTICULAR PROFILE**
   - Only group to simultaneously learn the musical and linguistic structures of sung material

**REFERENCES**


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