

The neural architecture of interpersonal cultural conflicts

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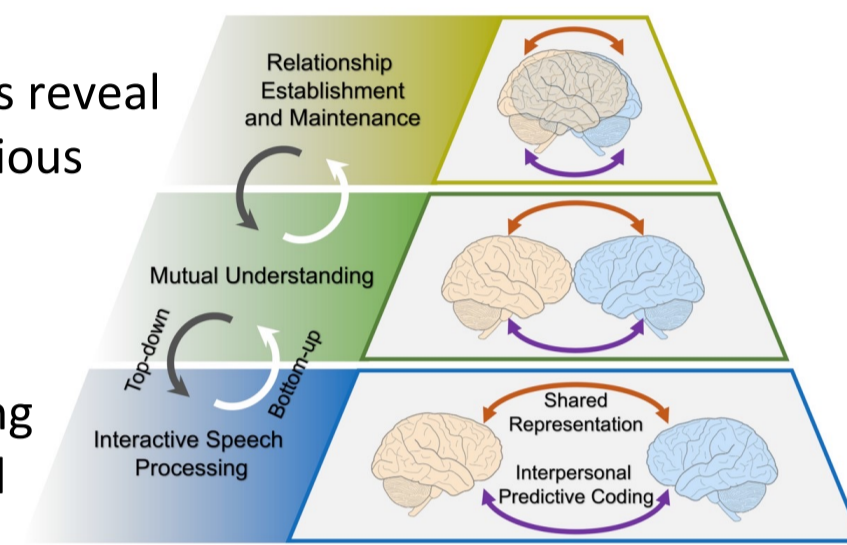
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Introduction

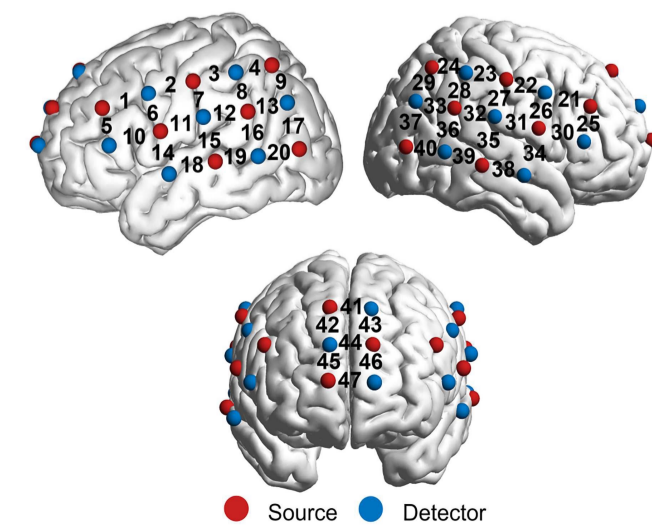
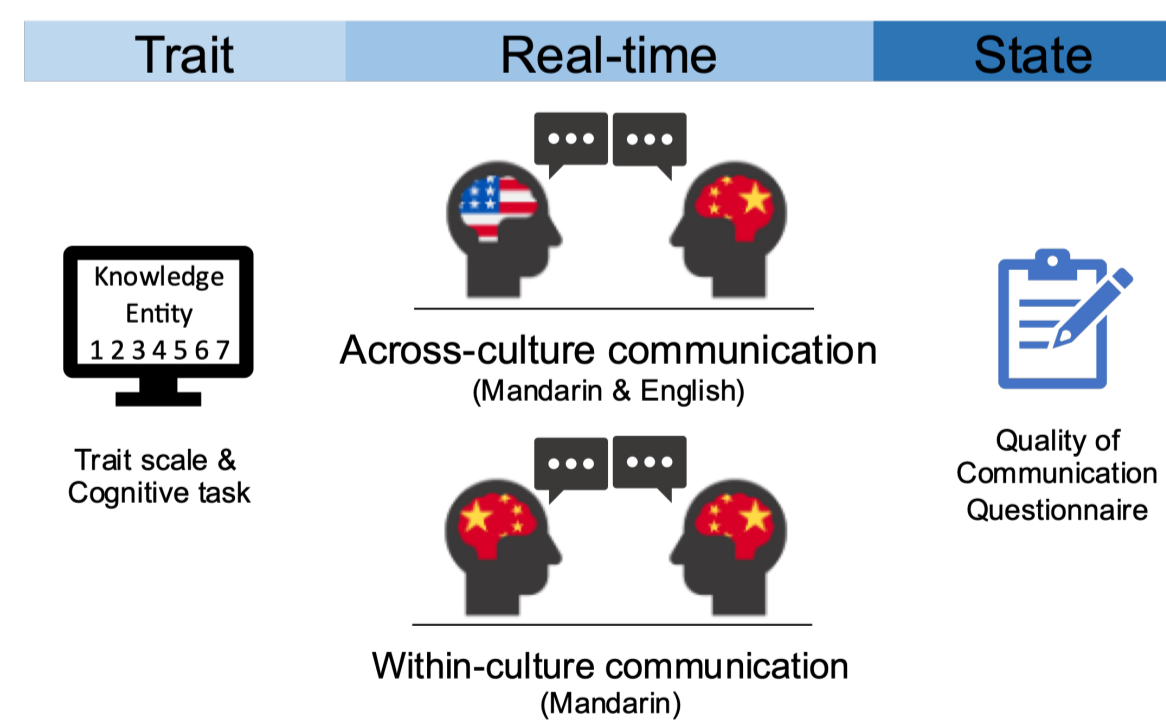
- Effective interpersonal communication relies on the cognitive processing of interlocutors to construct **hierarchical shared representations** across various cognitive levels.
- Individuals with distinct cultural backgrounds reveal differences in cognitive processes across various domains.
- These cultural differences might impede the construction of shared representations during intercultural encounters, resulting in cultural conflicts.



Question: What is the cognitive hierarchical structure in interpersonal cultural conflicts?

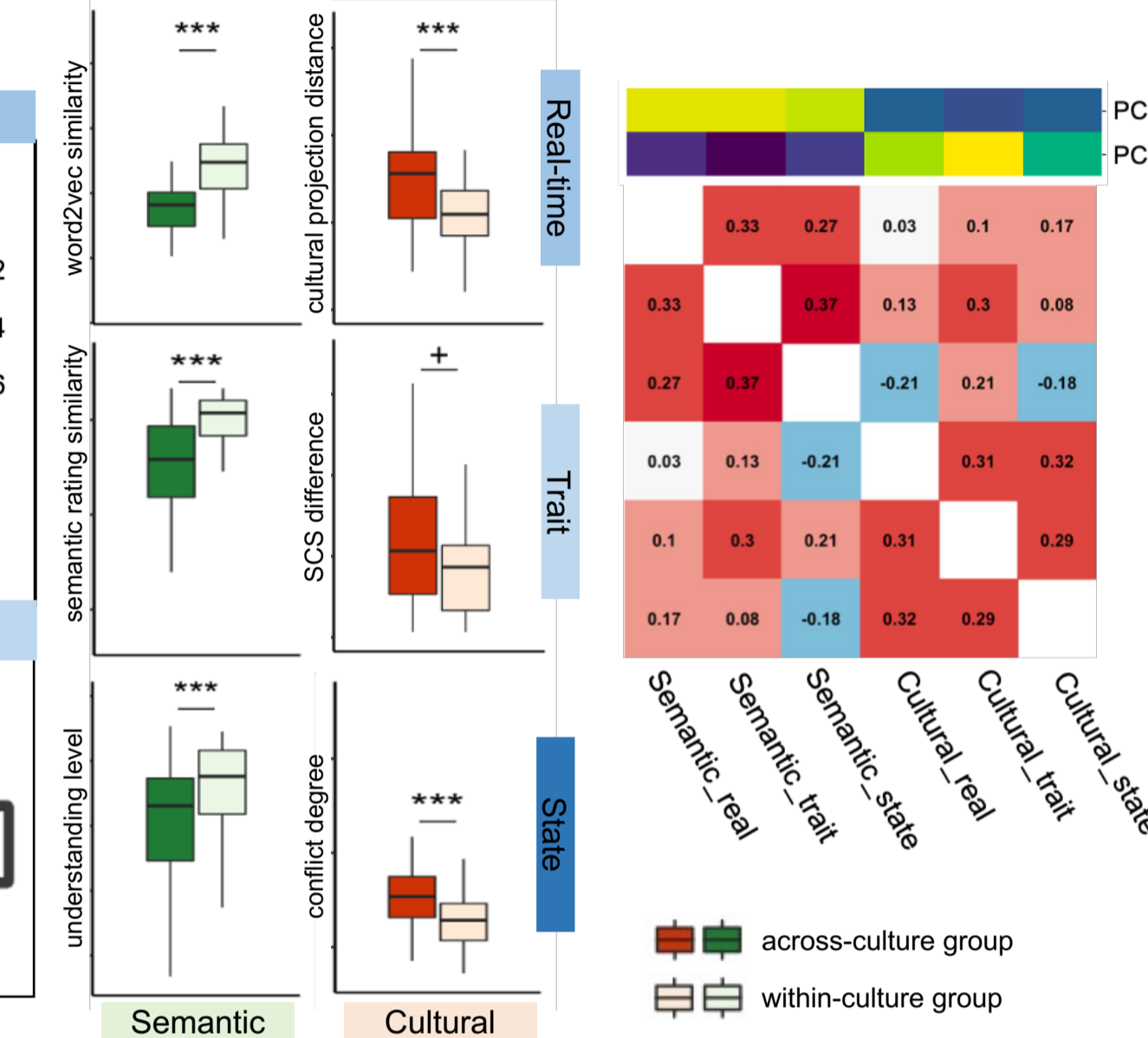
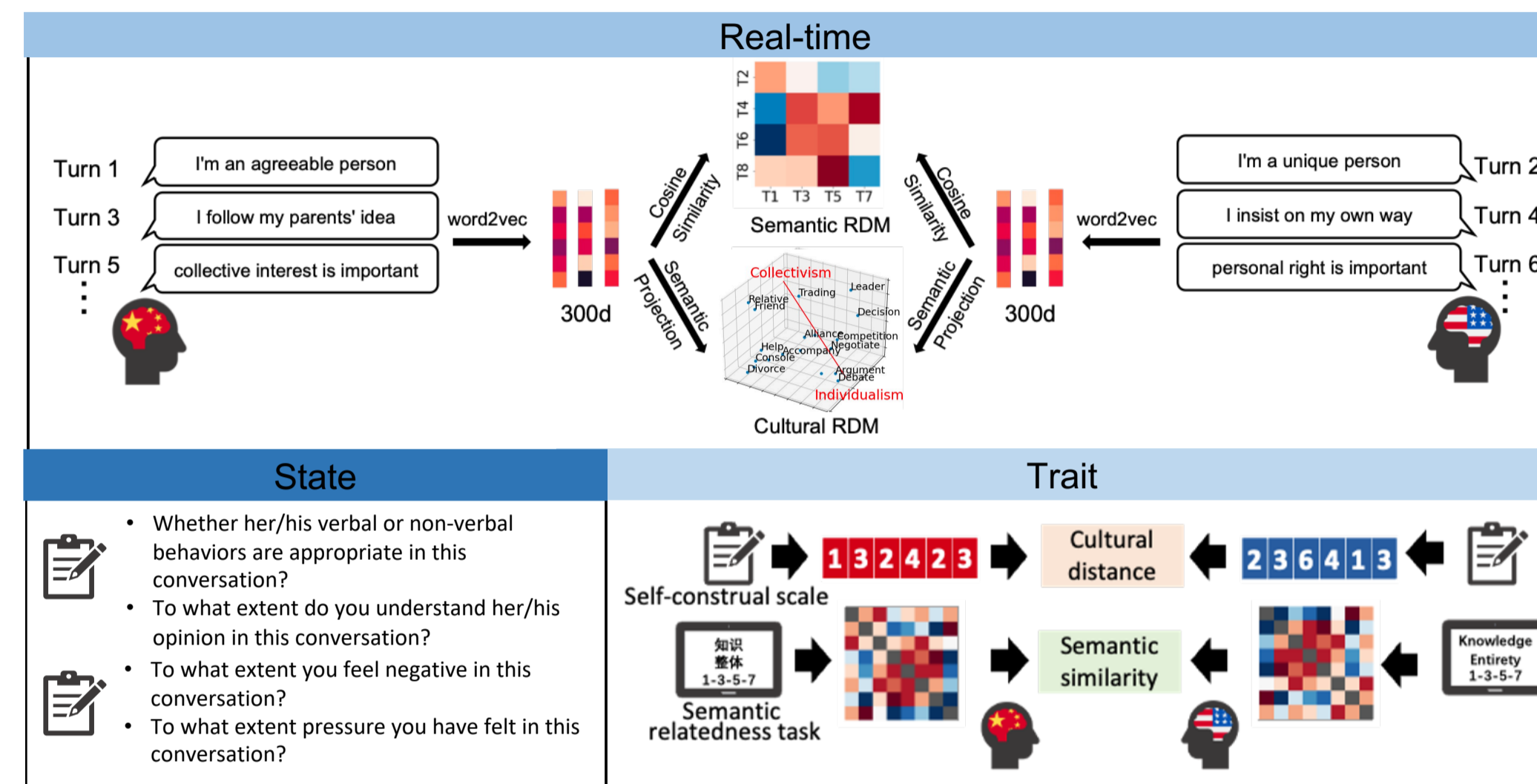
Methods

- Across-culture communication group:** 31 American-Chinese dyads
- Within-culture communication group:** 35 Chinese-Chinese dyads
- All participants had little intercultural experience
- fNIRS hyperscanning
- cultural topic discussion

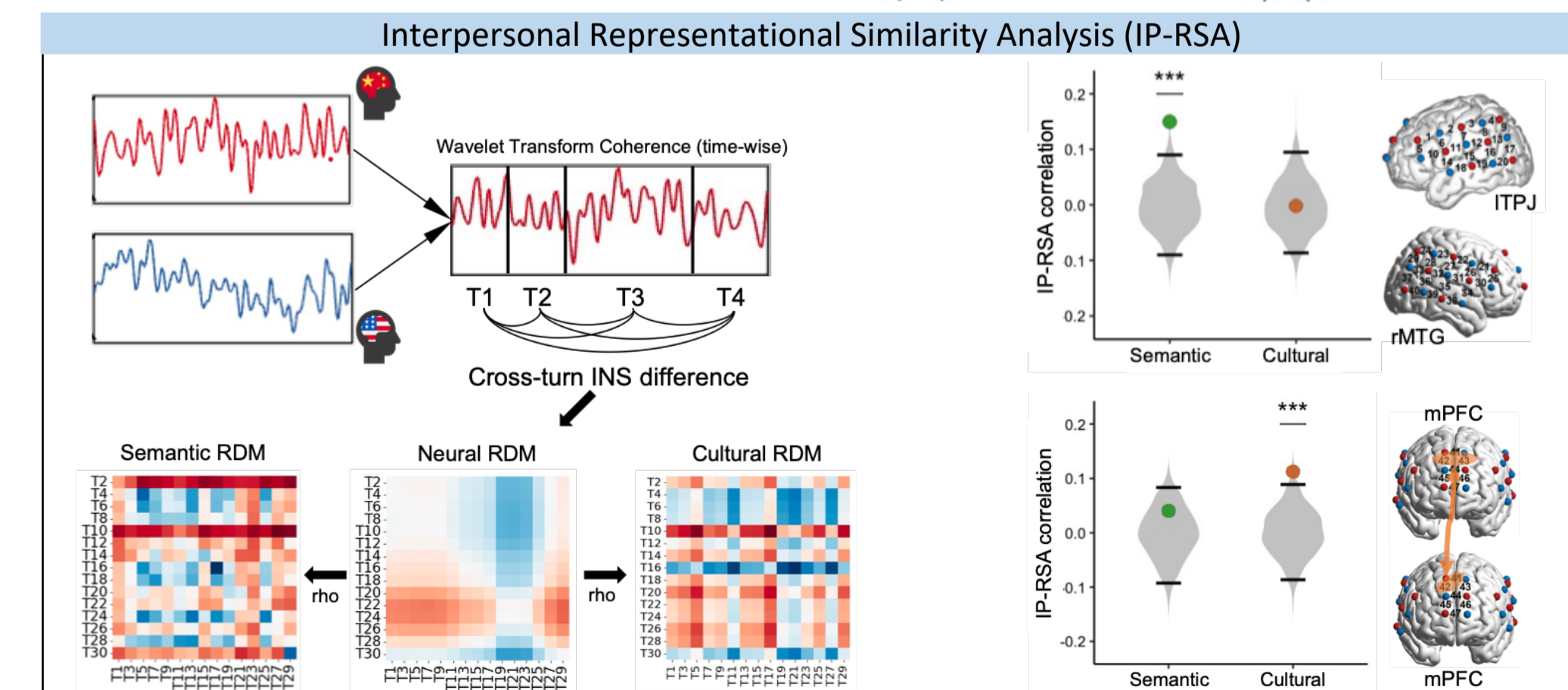
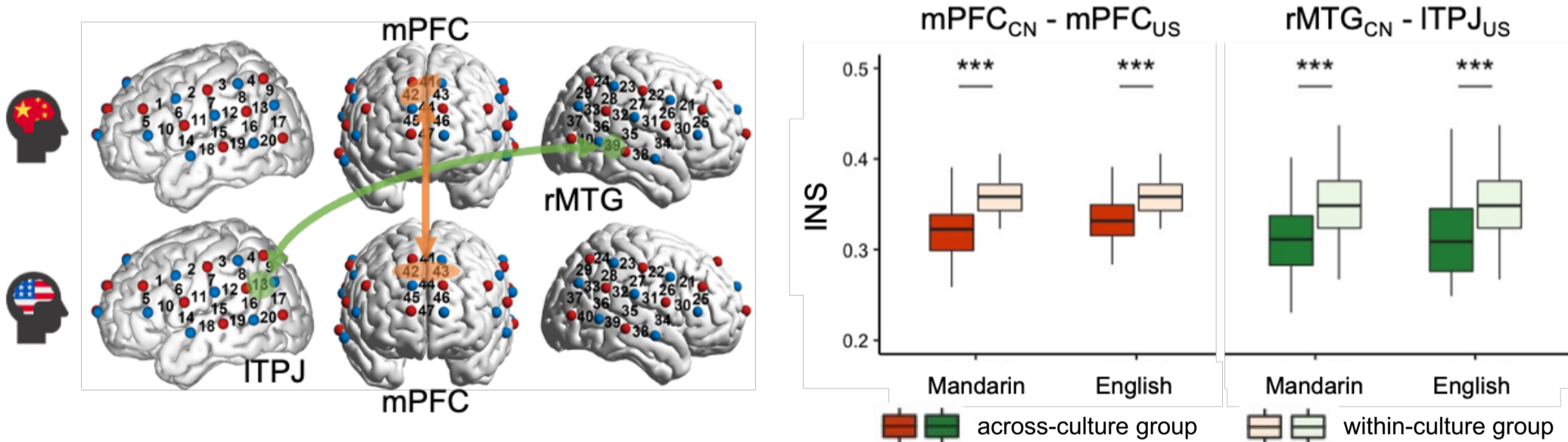


Results

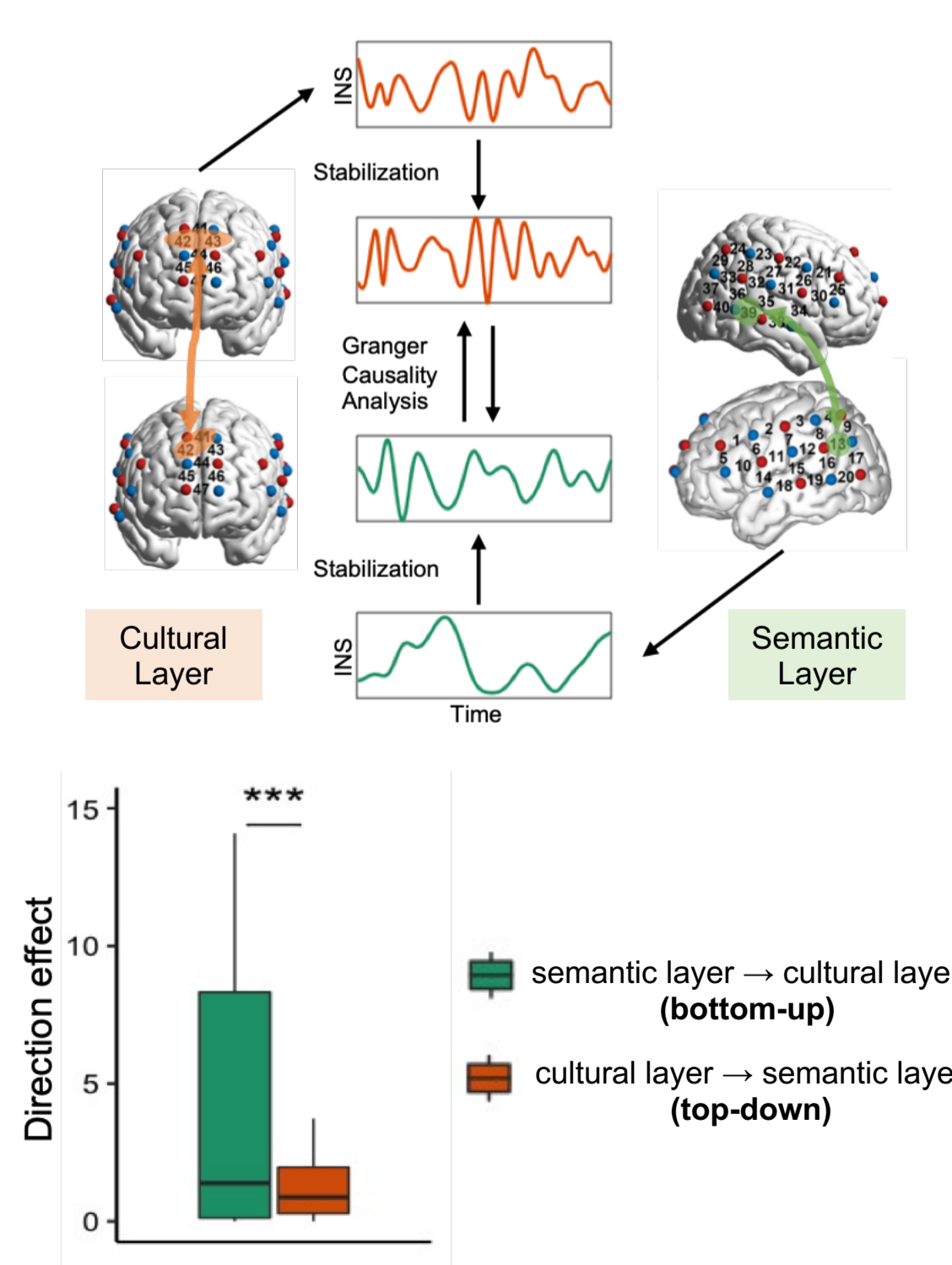
The hierarchical structure of interpersonal cultural conflict



The interpersonal neural synchronization (INS) basis of hierarchy



Information pathway of hierarchy



Conclusions

- A hierarchical structure was found during the interpersonal cultural conflicts, which occur on at least two layers: conflicts of cultural value representation and semantic representation.
- Decreased INS between mPFC_{US}-mPFC_{CN} represents conflicts at the cultural value layer, while decreased INS between rMTG_{US}-ITPJ_{CN} represents conflicts at the semantic layer."
- Conflicts at the semantic layer accumulate to the cultural value layer from a bottom-up pathway

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Conflict of interest

The authors declare no competing financial interests.

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