Deduction and Induction Dissociate in the Human Brain

Hope Kean, Alexander Fung, Josh Rule, Steve Piantadosi, Josh Tenenbaum, & Ev Fedorenko

BACKGROUND



Contact: hopekean@mit.edu



DISCUSSION

Deductive and inductive reasoning are dissociable in the human brain:

i) **Inductive reasoning** recruits the domain-general network for abstract reasoning—the Multiple Demand network

*although it shows a distinct fine-grained pattern within this **network** relative to a demanding working memory task.

ii) **Deductive reasoning** recruits a **distinct set of brain areas** that respond only weakly during inductive reasoning.

iii) The format of reasoning representations remains an important open question, however, logical reasoning does not rely on linguistic representations.

Next, we plan to test the replicability of the selective **deductive fROIs**, and to examine potentially induction-specific brain areas.

Key References:

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Multiple Demand System

Induction

Deductive fROIs

Language Network