

## **Inhibitory Mechanism of the Matching Heuristic in Syllogistic Reasoning with Generalized Quantifiers**

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The matching hypothesis is one of the few theories that can predict moderately human syllogistic reasoning responses. It is a heuristic-based hypothesis which employs the congruency of the quantifiers in a syllogism – by matching the quantifier of the conclusion with those of the two premises and choosing the more “conservative” one. When the heuristic leads to an invalid conclusion, successful solving of these “conflict” problems requires the inhibition of the automatic syntactic heuristic processing. The mental model theory (MMT), however, suggests that people reason using mental models, which involves semantic processing. Therefore, whatever inhibition occurs in reasoning implies the inhibition of the semantic contents. Studies have demonstrated the involvement of inhibition on the semantic contents in syllogistic reasoning when there is a conflict between the output of heuristics and actual validity with a subsequent lexical decision task (LDT), after correct syllogistic responses. It is suggested that reasoning with the generalized quantifier (GQ) “Most” is more reasoning based than that with “Few”. In the syllogistic conclusion evaluation task, the validity and congruency of the quantifiers of target syllogisms will be manipulated according to the matching heuristic. A LDT with related words in the conclusion will be employed to test any inhibition of the semantic contents after each syllogistic trial. For the results of the LDT, a diminished facilitation effect for “Most” than “Few” syllogisms after correctly solved conflict syllogisms will be expected. The results can contribute to the extension of MMT to syllogistic reasoning with GQ.