



The Reasoning and  
Decision Making Lab

# Information Processing and Indecisiveness: Memory Differences in Goal-Directed Reading

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## Introduction to Indecisiveness

Indecisiveness is chronic indecision, experienced for a wide range of decision types and importances. It is correlated with perfectionism (Frost & Shows, 1993), and is characterized by self-reported avoidance of decision-making, panic when faced with hurried decisions, and low confidence in decisions that have been made (Rassin, Muris, Franken, Smit, & Wong, 2007). Indecisive individuals often take longer to make decisions (Frost & Shows, 1993) and require (or desire) more information before making decisions (Rassin et al., 2007).

## Current Studies

The current studies are concerned with the extent to which previously documented behavioral differences between decisive and indecisive individuals extend to other tasks. Specifically, the current studies look at goal directed reading, in which participants are asked to read a passage with the goal of making a given decision. This study differs from previous research in that it uses memory (recall and recognition) rather than information looked at (clicked on, turned over, or eye fixations), and that it is an unstructured decision task (not a structured choice task).

Past research on reading has shown that readers use content schemata– frameworks of existing knowledge about the subject– to recognize relevant information and integrate it into their understanding (Anderson, Pichert, & Shirey, 1983). Reading with different schemata (or perspectives) in mind has been shown to affect readers' memories. Information that is more relevant to the perspective is both looked at longer and better remembered.

## Study 1

Participants read a 36-sentence passage about a fictional animal called a doobin. Each sentence was previously rated by pretest participants as being of high, medium, or low relevance to the goal of deciding whether or not doobins would be a good candidate for domestication. The passage contained 12 sentences of each relevance level.

Study participants read the passage with the goal of making the domestication decision and completed recall and recognition tests either immediately after reading or after performing a 5 minute distracter task. Each participant also completed the Indecisiveness Scale (Frost & Shows, 1993).

Each generated fact was coded as a correct if it captured the gist of the original sentence, even if it changed the details. Correctly recalled facts were designated “close” if they retained all the elements of the original, or “far” if they changed or were missing one or more elements.

## Sample Items

|  |                    |
|--|--------------------|
| Doobins are hard to train                | (high relevance)   |
| They acclimate well to mainland habitats | (medium relevance) |
| Their claws are used for climbing trees  | (low relevance)    |

## Results

A median split on the Indecisiveness Scale (median = 3.5; range = 1.9 - 5.5) was used to divide participants into decisive and indecisive groups. This led to 11 No Delay decisives, 9 No Delay indecisives, 8 Delay decisives, and 7 Delay indecisives.

A 2 (delay condition) x 2 (indecisiveness group) x 3 (item relevance) ANOVA revealed a significant 3-way interaction between delay condition, indecisiveness group, and item relevance [ $F(2, 62) = 3.39$ ,  $MSE = 7.59$ ,  $p = .040$ ].

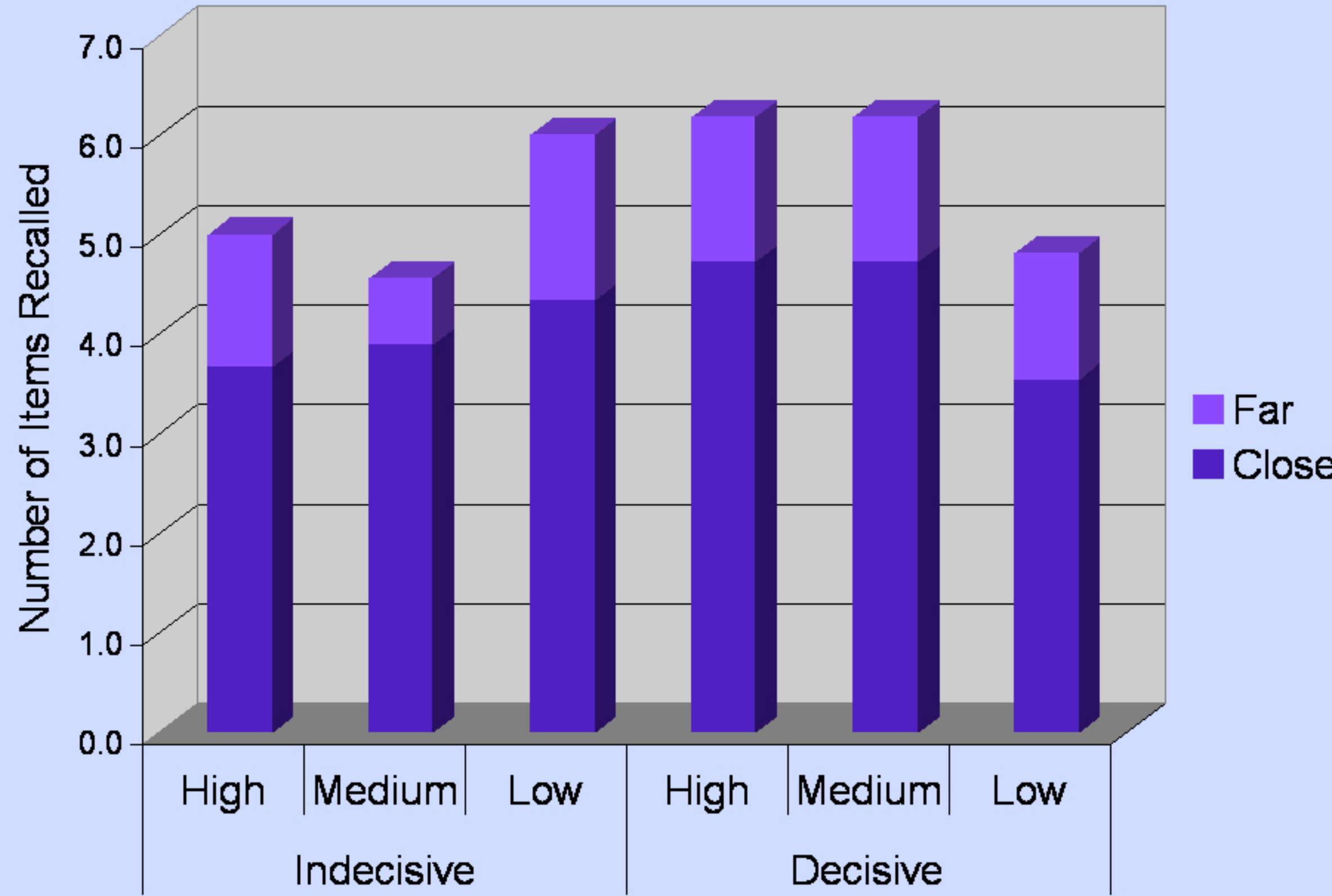
A 2 (indecisiveness group) x 3 (item relevance) post-hoc ANOVA of the No Delay condition revealed an interaction between indecisiveness group and item relevance [ $F(2, 36) = 5.50$ ,  $MSE = 11.28$ ,  $p = .008$ ]

Mean Number of Sentences Recalled

|          |            | Fact Relevance |           |           | Overall    |
|----------|------------|----------------|-----------|-----------|------------|
|          |            | High           | Medium    | Low       |            |
| No Delay | Decisive   | 6.2 (2.6)      | 6.2 (2.5) | 4.8 (2.1) | 17.2 (6.3) |
|          | Indecisive | 5.0 (2.1)      | 4.6 (2.2) | 6.0 (2.6) | 15.6 (6.1) |
| Delay    | Decisive   | 5.5 (1.4)      | 5.0 (2.6) | 5.4 (3.0) | 15.9 (5.8) |
|          | Indecisive | 6.7 (2.4)      | 4.7 (2.3) | 5.3 (2.8) | 16.7 (6.8) |

Note. SDs are in parentheses.

Total number of correct recall items broken down into close and far matches, by item relevance and indecisiveness group; for No Delay condition only



## Conclusion

Immediately after reading, decisive and indecisive individuals recall the same amount of information, but more of the information recalled by decisive individuals is high relevance. This is most likely because indecisive individuals are hesitant to ignore information, even if it is of low relevance, whereas decisive individuals are more willing to ignore low relevance information and devote greater attentional resources to high relevance information.

## Study 2 (Work in Progress)

To control for the effect of systematic differences in memorability across relevance levels and to demonstrate the change in relevance across different perspectives, Study 2 is designed to have relevance levels that switch from high to low depending on which of two perspectives the participant is given.

Participants will be asked to read a family description that consists of 36 sentences with the goal of deciding whether or not the family is a good example of (1) the negative impact of economic recession on families, or (2) the increasingly conservative values of families. Half of the sentences are of high relevance to each perspective (and of low relevance to the other). Two thirds of the items relevant to each perspective suggest that the family is a good example of the given subject, and the remaining third suggests that the family is not a good example. This is to ensure that the decision is not obvious, and that all relevant information needs to be processed in order to reach a decision.

Behavioral measures that will be collected are amount of time spent reading, amount of time on recall, amount of time on recognition, number of high and low relevance items recalled, and number of high and low relevance items recognized.

## Predictions

Decisive individuals will remember more items that are of high relevance to their given perspective. Indecisive individuals will remember high and low relevance items fairly equally. Additionally, indecisive individuals may take longer to complete reading, recall, and recognition tasks.

## Sample Items

|  |                     |
|--|---------------------|
| Father owns several guns               | (conservative goal) |
| Aunt moved in because she lost her job | (economic goal)     |
| Parents each have a car                | (economic goal)     |
| Daughter had an abortion               | (conservative goal) |

## References

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