

# Remembering together: Evidence for distributed cognition in long-married elderly couples

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## Background

- Philosophers and cognitive scientists have argued for the existence of the “extended mind”, the idea that human cognition extends into the world to include physical (e.g. smartphones) and social resources (e.g. family). Wegner (1987) further argued that social groups remembering together would recall more information than the sum of their parts, that they showed *emergent outcomes*.
- Surprisingly, experimental memory research typically has found that such groups recall *less* information than the same number of people working individually, an effect termed *collaborative inhibition*.
- Recent theoretical and empirical research by our team has revealed specific instances in which collaborating not only eliminates collaborative inhibition, but also reverses it such that groups show *collaborative facilitation*. Specifically, over a range of studies we have found that many long-married elderly couples recall more information when they recall with their spouse compared to when they recall alone.

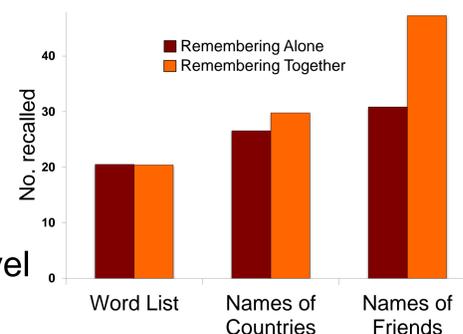
## Method

- The *Collaborative Recall (CR)* paradigm is the typical experimental design used to investigate how people remember together. CR involves comparing the non-redundant pooled recall of participants tested individually (nominal group) to those tested together (collaborative group).
- In our experiments we test young and elderly couples in romantic relationships on memory measures involving either novel (e.g. a list-learning task) and personally relevant (e.g. the names of their friends) information.

## Results: Emergence of New Information

- Consistent with predictions of “distributed cognition” we demonstrated three types of emergence when **elderly couples**, but not **young couples**, remember together compared to when they are alone:

1. **Emergence of new information:** elderly couples remember quantitatively more information on both novel and personally relevant measures of memory.



2. **Emergence of qualitatively different information:** elderly couples recall emotionally richer and more vivid memories.
3. **Emergence of new understandings:** elderly couples have a greater appreciation and understanding of different perspectives and explanations of events that they experienced with their spouse.

## Results: Explaining Emergence

- The following characteristics appear to explain the emergence of new information in long married elderly couples:
  1. **They use more strategies:** elderly couples use a greater number of strategies than younger couples. For instance, while a long-married partner might assist the recall of their partner with a specific and idiosyncratic cue (e.g. a non-verbal gesture), young couples are more likely to use general prompts (e.g. members decide to divide and recall half the information to be recalled).
  2. **There is a high degree of alignment between members:** elderly couples have high levels of intimacy and are more likely to understand, appreciate, and efficiently implement recall strategies with their spouse. In contrast, young couples have lower levels of intimacy and are more likely to *disrupt* encoding and recall of information as they struggle to align the type and use of their partner’s strategy.

## Conclusions

- Intimate groups, such as long married elderly couples, can be conceptualised as a persisting and integrated cognitive system with emergent properties.
- Emergence in long married couples appears to be best explained by high levels of *intimacy* and the use of effective and highly specific *strategies*.

