# Article information:

Contrasting single and multi-component working-memory systems in dual tasking - ScienceDirect  
<https://www-sciencedirect-com.libezproxy.open.ac.uk/science/article/pii/S0010028516000049?via%3Dihub=>

# Article summary:

1. The article contrasts a single-component working memory system with a multi-component system in dual tasking scenarios.

2. A computational cognitive model with distributed working memory components better accounts for behavioral and fMRI data compared to a model with a centralized approach.

3. The study suggests that working memory interference in dual tasking is the result of interactions between different resources that form a complete working-memory system.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article titled "Contrasting single and multi-component working-memory systems in dual tasking" presents a study that investigates the role of working memory in multitasking. The study compares a monolithic, single-component working memory system against a multi-component system using behavioral and fMRI data. The results suggest that a multi-component working memory system, consisting of an attentional focus, declarative memory, and subvocalized rehearsal mechanism, better accounts for both behavioral and neuroimaging data than a single-component system.

One potential bias in this article is the assumption that a multi-component working memory system is superior to a single-component system without thoroughly exploring the limitations or drawbacks of each approach. While the study provides evidence supporting the multi-component model, it does not adequately address potential criticisms or alternative explanations for the observed results. This lack of consideration for opposing viewpoints could lead to an incomplete understanding of the complexities of working memory in multitasking scenarios.

Additionally, the article may be biased towards promoting the multi-component model as it aligns with current trends in cognitive psychology research. By emphasizing the advantages of a distributed working memory system over a centralized one, the study may overlook nuances or exceptions where a single-component model could still be relevant or effective. This one-sided reporting could potentially influence readers to adopt the multi-component perspective without fully evaluating all available evidence.

Furthermore, there are some unsupported claims in the article, such as stating that existing theories of multitasking do not address how working memory is used during concurrent task performance. While this may be true to some extent, it oversimplifies the existing literature on multitasking and working memory interactions. There are numerous studies that have explored different aspects of working memory in multitasking contexts, and failing to acknowledge this body of research undermines the credibility of the study's claims.

Moreover, there are missing points of consideration in the article regarding potential confounding variables or alternative explanations for the observed results. For example, factors such as individual differences in cognitive abilities, task complexity, or task familiarity could impact how participants engage with different components of their working memory during multitasking. Failing to account for these variables limits the generalizability and applicability of the study's findings.

In conclusion, while the article presents interesting findings regarding working memory systems in dual-tasking paradigms, it is important to critically evaluate its claims and consider potential biases or limitations in its methodology and interpretation. By acknowledging alternative perspectives, addressing unsupported claims, and exploring missing points of consideration, researchers can ensure a more comprehensive understanding of complex cognitive processes like multitasking and working memory.

# Topics for further research:

* Criticisms of multi-component working memory systems in cognitive psychology research
* Alternative explanations for the role of working memory in multitasking scenarios
* Individual differences in cognitive abilities and their impact on working memory in dual-tasking
* Task complexity and familiarity as confounding variables in studies of working memory during multitasking
* Existing literature on multitasking and working memory interactions in cognitive psychology
* Limitations of single-component working memory systems in dual-tasking paradigms

# Report location:

<https://www.fullpicture.app/item/59688b038753882c06c94ac3f73ed974>