Simple and Complex Working Memory Tasks Allow Similar Benefits of Information Compression

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Abstract: Because complex span tasks were designed to create a demanding concurrent task, the average span is usually lower (4 ± 1 items) than in simple span tasks (7 ± 2 items). One possible reason for the higher span of simple span tasks is that participants can take profit of the spare time to chunk a few stimuli into 4 ± 1 groups. It follows that the respective spans of these two types of tasks could be equal (at around 4 ± 1) when regularities are absent. We therefore predicted an interaction between task and chunkability, supporting a single higher span for a simple span task using chunkable items. However, observation of the spans in the non-chunkable vs. chunkable series refuted the idea that chunking is important solely in simple spans. Indeed, information compression processes contributed to performance levels to a similar extent in simple and complex span tasks.