

## **Exploring Prioritization Strategies in a Dual-Task Paradigm for Listening Effort**

**Katrien Kestens<sup>1</sup>**

Emma Lepla<sup>1</sup>, Flore Vandoorne<sup>1</sup>, Dorien Ceuleers<sup>1</sup>,  
Louise Van Goylen<sup>1</sup>, Hannah Keppler<sup>1,2</sup>

<sup>1</sup>Ghent University, Ghent, Belgium

<sup>2</sup>Ghent University Hospital, Ghent, Belgium, Katrien Kestens

**Introduction** Understanding how listeners execute a dual-task paradigm for listening effort would provide a benchmark for future studies and clinical implementations. Therefore, this study aimed to examine the prioritization strategy employed by individuals during a dual-task paradigm for listening effort by assessing dual-task interference.

**Methods** The dual-task paradigm consisted of a primary speech understanding task presented in different listening conditions and a secondary visual memory task, both performed separately (baseline) and simultaneously (dual-task). Twenty-three normal-hearing participants (mean age: 36.8 years; 14 females) were directed to prioritize the primary speech understanding task in the dual-task condition, whereas another twenty-three (matched for age, gender, and education) received no specific instructions regarding task priority. Both groups performed the dual-task paradigm twice (mean interval: 14.8 days). Dual-task interference was individually measured by calculating the dual-task effect for both the primary and secondary task separately. Participants were then categorized according to the distinct interference patterns, utilizing the framework introduced by Plummer and Eskes (2015).

**Results** There was considerable variability in dual-task interference across listening conditions and test moments, regardless the given prioritization instructions.

**Conclusion** Providing prioritization instructions was insufficient to ensure that an individual will mainly focus on the primary task and will stick to this strategy across listening conditions and test moments. These results raised certain reservations about the current usage of dual-task paradigms for listening effort.