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Certification of attendance

To Whom It May Concern,

This is to certify that **Dorottya Szilvia Rác** attended the 15th Dubrovnik Conference on Cognitive Science as a poster presenter, introducing their work titled *"Exploring the effects of conspecificity and relevance on processing preferences in voice identity perception in the dog and human brain using fast periodic auditory stimulation"*. The conference was organized by the Central European Cognitive Science Association, between 23-26 May 2024 in Dubrovnik, Croatia.

27 May 2024
Vienna, Austria



Anna Kispál
Secretary of CECOG

15th Dubrovnik Conference on Cognitive Science

Memory, space, language

PROGRAM AND ABSTRACTS

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demands and testing methodologies have rendered the trajectory of episodic memory during this period unclear, particularly with regards to which elements are in a state of change at which time. This study separately assessed memory for item, location, and temporal order, as well as integrated what–where–when (WWW) information using a what-where-when memory test (the Treasure-Hunt task) with 84 children aged 6 to 12 years. Two versions of the task were used varying in the degree of retrieval support while keeping encoding constant. Results show that episodic memory continued to develop across this period, with individual item, spatial, temporal and WWW memory all improving relatively linearly with age. These improvements were underpinned by both the associative binding and strategic control processes. These findings suggest that it is not any one element of episodic memory that is driving development during this period, but that all aspects are continuing to mature in parallel.

PS4-5 Exploring the effects of conspecificity and relevance on processing preferences in voice identity perception in the dog and human brain using fast periodic auditory stimulation

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Discriminating voice identities is essential in many social interactions, and conspecific vocalizations are processed preferentially by the brain of various species. However, it is unclear if this preference is driven primarily by conspecificity or relevance. The long-standing interspecific relationship of dogs and humans allows the investigation of these principles: for companion dogs, humans are highly relevant; for humans with dogs, dogs are more relevant than for those without. But a direct comparison between dog and human voice identity discrimination is lacking in both species. Here, we investigated dogs' and humans' ability to discriminate con- and heterospecific voice identities in a single study, using fast periodic auditory stimulation combined with electroencephalography.

20 dogs and 23 humans were presented with short vocalizations (barks and “ha” utterances) at every 0.25s in four conditions: dog/human regular: two sounds from the same vocalizer, followed by a third sound from a different vocalizer (target frequency: $1/0.75s=1.33Hz$); dog/human random: same stimuli without oddball pattern. Dog and human vocalizer identities were similarly highly discriminable acoustically. We predicted that the brain would entrain to the target frequency in regular conditions only if voice identity discrimination occurred, and more efficient processing would be reflected in greater entrainment. We hypothesized that if relevance played a role, dogs would discriminate both human and dog identities, and dog owners would discriminate dog identities more efficiently than humans without dogs. Frequency domain analyses revealed entrainment in both species to the human regular, but not to the other conditions. Notably, dog ownership had no effect on humans’ processing of dog vocalizations. Dogs’ successful discrimination of human voice identities suggests that relevance may shape processing preferences in voice identity perception, but the lack of entrainment to dog identity changes in both species also indicates that certain vocalizations (short barks) may not primarily convey identity information.

PS4-6 Interaction of the nameability and variability effects in category learning

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In our study, we have investigated the interaction between two major category learning effects: the variability effect (higher learning performance is associated with higher variability of the examples) and the nameability effect (learning is more successful when examples have features that are easier to verbalize). In prior research, these effects have been considered independently: in general, the variability effect has been studied on the material with low nameability level, and the nameability effects has been studied on the material with high variability level. According to our hypothesis, however, these effects are interrelated. Ehat is, high