

**The Influence of the Ontological Hierarchy on
Hybrid Perception by Children with Typical
Development and by Children with Language
Impairment**

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Abstract

The current study investigates how the ontological hierarchy affects hybrid perception in populations that have not fully acquired linguistic skills. The ontological hierarchy is a basic form of knowledge organization, which arranges all concepts in a hierarchical fashion according to prominence (*humans > animals > plants > inanimates*). The ontological hierarchy effect measures the tendency to perceive concepts higher on the ontological hierarchy as more central to the hybrid conceptualization. Knowledge organization is related not only to conceptualization but also to linguistic capabilities. A series of previous studies on this subject (see Shen & Gil, in press a, for a survey) have revealed the central role played by *language* in the conceptualization of hybrids. In continuation to these previous studies, the goal of this study is to investigate the ontological hierarchy effect in hybrid perception specifically in children at an earlier developmental phase of grammatical structure use than previously studied, and in children with language impairment. Three study groups were tested: 55 children aged 3 to 4 with typical language development; 50 children aged 6 to 7 with typical language development and 30 children aged 4 to 6 with language impairment. Three experiments conducted in all the study groups explored the intensity of this effect in hybrid perception: a verbal experiment, in which the child described the hybrid presented to him, and two conceptual tasks in which the child sorted the hybrid into a specific (visually presented) category in a forced decision task. In all three study groups, the hierarchy effect was greater in the verbal task than the conceptual tasks. Furthermore, the more complex the grammatical structure used in describing the hybrid was, the greater the hierarchical effect found. These findings are compatible with previous studies that tested adults in different languages (Mashal, Shen, Jospe, & Gil, 2014; Shen & Gil, in press a, in press b). Following Shen & Gil (in press a, in press b), we suggest that the ontological hierarchy

effect is greater for tasks that involve grammatical structure than for non-verbal tasks or tasks that involve the lexicon only. This is consistent with Slobin's "thinking for speaking" hypothesis (Slobin, 1996) according to which the act of thinking presents itself in different forms when used in different modes (i.e., verbal vs. non-verbal modes). Our findings in very early language development and in children with language impairment suggest that Slobin's hypothesis is primarily pertinent to language development. This study contributes to the thought-language interaction debate, the study of hybrid perception and the study of conceptual and linguistic development in specific populations.