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The time boundary of sensorimotor integration between graspable object nouns and adjectives: behavioural evidence.

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Abstract

The study investigated the temporal dynamics of the sensorimotor integration between the noun and the adjective. Forty-two participants categorized an object noun as natural or artifact performing a precision or a power reach-to-grasp response. Responses were compatible or incompatible with the grip typically used to manipulate the object denoted by the noun presented on the screen for 250ms. After three different SOAs (0ms, 200ms, or 500ms) an adjective replaced the noun (250ms). The adjective could indicate a positive (e.g., round) or a negative (e.g., sharp) object property. Reaction times revealed that the SOAs modulated the grasp-compatibility effect (incompatible-compatible conditions). At 0ms of SOA, a standard compatibility effect emerged with positive adjectives, while negative adjectives reversed the effect. No modulatory effects were detected at 200 and 500ms. The present results provide first evidence about the temporal dynamics of sensorimotor integration process between these two classes of words.