

## Grasp-compatibility effects for object names do not differ between singular and plural forms

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Connections between action and perception have been demonstrated using the grasp-compatibility task, in which participants categorize a visually presented object by performing a power or precision grip. Performance typically improves when the response grip matches the movement used to interact with the object and worsens when it does not (compatible vs. incompatible trials; Ellis & Tucker, 2000; Bub & Masson, 2010). Recently, similar grasp-compatibility effects have been demonstrated by using object nouns and shown to be modulated by adjectives (Tucker & Ellis, 2004; Garofalo et al., 2021). However, no work has tested whether object numerosity affects sensorimotor activation during language processing.

In the present study, we manipulated numerosity using the singular or plural forms of graspable object nouns. In particular, we expect that stimuli that are compatible with a precision grip would become incompatible in the plural form (e.g., with a precision grip, it is easier to grasp a single cherry than multiple ones). Fifty-one participants responded to words denoting graspable objects in either singular or plural form, using precision or power grips. We manipulated Compatibility (compatible vs. incompatible) and Form (singular vs. plural), and we analysed error rates, reaction times, and movement times. Overall, compatible trials yielded better performance, but this advantage was equivalent for singular and plural forms. This result suggests that sensorimotor programs for graspable objects are similarly engaged by singular and plural object names. Future studies should investigate whether numeral adjectives (e.g., one apple, three cherries) and quantifiers (e.g., many apples, some cherries) modulate grasp-compatibility effects.

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