

Countability Distinctions without Linguistic Cues

Introduction. Quantity judgments (*Who has more NOUN?*, Barner & Snedeker 2005) have been widely used across languages to assess how speakers represent the semantics of nouns: count nouns (e.g. *panda*) and aggregate nouns (e.g. *furniture*) which are counted are atomic, whereas mass nouns (e.g. *wine*) which are measured, are not. Interestingly, recent studies (Deal 2017 and Scontras et al. 2017) have shown that the language form could influence quantity judgments. The goal of this paper is to investigate the role played by morphosyntactic cues to atomicity in quantity judgment tasks in English and in French. French is particularly interesting: unlike in English, the morphosyntactic cues to atomicity are not always perceptible in the auditory signal allowing us to provide participants nouns without explicit cues to atomicity in the quantity judgment prompts. If cues to atomicity drive participants' behavior, we would expect categorical behavior to disappear when the cues to atomicity are not explicitly provided in the prompts.

Procedure. MTurk participants (English: $n=90$; French: $n=61$) were shown 20 pictures as illustrated in Fig. 1. They were then asked which character has more (Barner & Snedeker's 2005 Quantity Judgment task). Crucially, the stimuli were provided in an audio format. The Noun Type factor was tested within participants and the Cues factor between participants. In the Cues condition, participants were asked *Who has more NOUN?* or *Regarde, il y a des/du/de la NOUN sur la table! Qui en a le plus?* ('Look there is/are some NOUN on the table! Who has more?'). In the No Cues Condition, they were asked *Who has more?* or *Regarde ce qu'il y a sur la table! Qui a le plus de NOUN?* ('Look what is on the table! Who has more NOUN?').

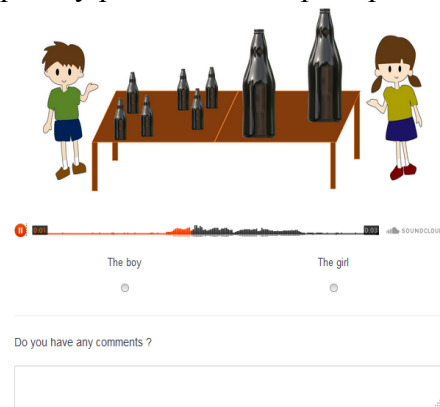


Figure 1: Example of Stimuli

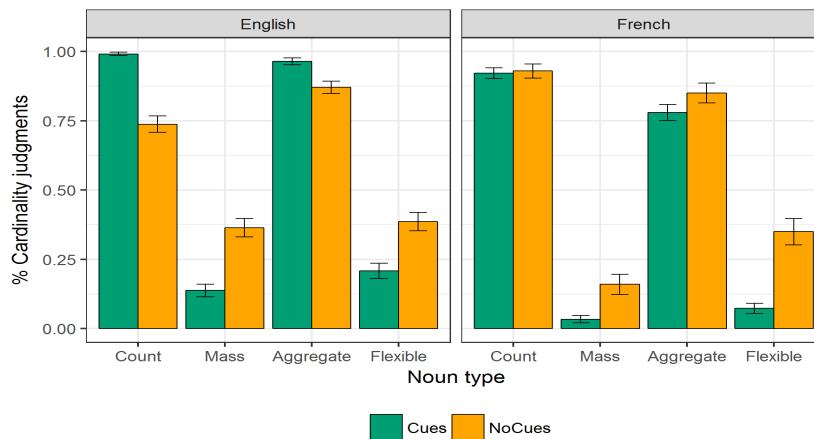


Fig. 2: Rate of cardinality judgments depending on Noun Type, Cues and Language

Results. Our results were analyzed using Generalized Logistic Mixed Models and the *lsmmeans* package. While in English, count nouns ($p < 0.001$) and mass nouns ($p < 0.05$) were each judged differently in the Cues and No Cues conditions, they were not in French (Count Nouns: $p = 1.00$; Mass Nouns: $p = 0.09$). The French results show that morphosyntactic cues to atomicity do not influence quantity judgments. We further found a significant interaction of language and cues ($p < 0.05$) showing that quantity judgments in English were affected by the absence of the relevant nouns in the quantity judgment prompts. A follow-up experiment ($n=41$) shows that the absence of nouns also plays a role in quantity judgments in French. When nouns are underspecified, participants' behavior is influenced by the availability of salient portions and alternative dimensions of measurement (Scontras et al. 2017).

Key Words: Quantity Judgments, Count Nouns, Mass Nouns, French, English [Talk]