**Does ‘a couple’ pattern with scalars or numbers - Insights from the inference and ‘so’ tasks**

**Background.** Paucal quantifiers typically denote a range of small numbers. For example, ‘a couple’ can mean more or less the same thing as ‘two’, but it is also often used for a broader range of cardinal values than just two, depending on certain properties the objects in question are perceived to have. Thus, on the one hand, ‘a couple’ has properties akin to other indefinite expressions like ‘some’ and ‘a few’. On the other hand, it has a semantic core that is somewhat more determinate, like the numeral ‘two’. A growing body of experimental research, such as Sun & Breheny’s (2022) inference tasks, points to differences in outcomes for tasks when ‘some’ and numerals like ‘two’ are compared. The first experiment of this research adopts their inference tasks, and shows that ‘a couple’ in some ways behaves like numbers and in some ways like other scalars. To continue this theme of finding whether ‘a couple’ patterns with ‘some’ or numerals, the other experiment replicates Sun et al.’s (2018) ‘so’ task which explores the correlation between the naturalness of an ‘X so not Y’ construction and the rates of scalar inferences (SIs) measured in the inference task.

**Experiments.** Sun & Breheny (2022) have tested numbers and scalar expressions in inference tasks and established that scalars (e.g. some) are sensitive to a manipulation that can change the contextual relevance of alternatives (all), whilst ‘exactly’ readings of numbers are not. Our Exp. 1 mirrors their study so as to see if manipulating contexts has an effect on interpreting ‘a couple’.

**Exp.1** (n = 60) was a partial replication of Sun & Breheny’s study investigating ‘a couple’, ‘possible’ and ‘some’ in inference tasks with two types of probe questions (see Fig.1, left). One type, referred to as ‘not Alt’ probe, was intrinsically a standard inference task where the probe question asked participants whether they could infer the negation of a scalar alternative (e.g. not many), according to a speaker character’s statement containing a scalar expression (e.g. a couple), and Target Response corresponding to inferring the SI was a ‘Yes’ response. The other type of probe question, called ‘could Alt’ probe, asked participants whether ‘many’ might not be excluded for the same statement, and Target Response was a ‘No’ response. Note that participants could also give a ‘No’ response when they were uncertain about the speaker’s intended meaning, irrespective of the probe type. In light of Sun & Breheny, the interpretations of ‘some’ and ‘possible’ were affected by the manipulation of probes, because there were more Target Responses for ‘not Alt’ than ‘could Alt’ probes. This suggested that probe questions had an effect on making the SI contextually relevant, so participants were more certain about inferring the SI as part of the intended meaning, which led to more Target Responses for the ‘not Alt’ probe. Responses to numbers in their study showed a reversed pattern, indicating that the different probes had no effect on which reading would become available for participants, so they gave a ‘No’ response due to uncertainty, which led to more Target Responses for the ‘could Alt’ probe and fewer Target Responses for the ‘not Alt’ probe. As illustrated in Fig. 1 (right), our results replicated the pattern in Sun & Breheny between ‘not Alt’ and ‘could Alt’ probes for ‘possible’ ($p = .07$). Crucially, the probability of Target Responses was greater for the ‘not Alt’ probe compared to the ‘could Alt’ probe for ‘a couple’ ($p < .01$), suggesting that paucal quantifiers, such as ‘a couple’, behave like a genuine scalar expression, not like numbers. However, we note that, for ‘a couple’, the rate of Target Responses to ‘not Alt’ probe was significantly lower than that for ‘possible’ ($p = .04$), which was similar to that found by Sun & Breheny when numerals were compared to scalars in ‘not Alt’ trials. This may be due to the fact that like numbers, inferences for ‘a couple’ are more independent from the context. Given that Sun et al. ran a ‘so’ task that is a follow up of the inference task in their Exp.1, we also conduct Exp.2 that mirrors Sun et al.’s ‘so’ task to continue this aim of seeing if ‘a couple’ behaves more like ‘some’ or numbers.

**Exp.2** (n = 103) adapted Sun et al.’s ‘so’ task. Fig. 2 (left) is an example item. We used 48 scalars including 43 of them investigated in Sun et al.’s study along with ‘a couple/high number’, ‘a couple/many’ and some other scalars to construct experimental sentences for Exp.2. The

experimental sentences were of the form ‘X so not Y,’ where X is informationally stronger than Y; for example, ‘The student sharpened many of the pencils, so not a couple of the pencils.’ As can be seen in Fig. 2 (left), we employed a between-subject design. Two groups, the partitive group and the non-partitive group, were created. All the other scalars in the two groups were the same, except for ‘a couple/high number’ in the non-partitive group, whilst ‘a couple/many’ in the partitive group. Each participant was randomly assigned to one of the two groups and judged 47 experimental sentences. Participants were asked to indicate how natural these constructions are on a 1 (very unnatural) - 7 (very natural) Likert scale. As illustrated in Fig. 2 (right), we found a significant difference between ‘a couple’ and ‘some’ in both groups (‘a couple/high number’: $p < .001$; ‘a couple/many’: $p = .003$). However, we did not find a significant difference, when comparing number to ‘a couple/high number’ or to ‘a couple/many’. Similarly, there was no significant difference between ‘a couple/high number’ and ‘a couple/many’.

**Discussion.** Although, in Exp.1, paucal quantifiers such as ‘a couple’ behave like genuine scalar items such as ‘some’, Exp.2 shows that ‘a couple’ can be similar to ‘number’, when compared to scalars like ‘some’. Overall, our findings indicate two natures of ‘a couple’, and then the follow up ‘so’ task would further show the numbers’ nature of ‘a couple’, particularly in the context of numbers, compared to ‘many’.

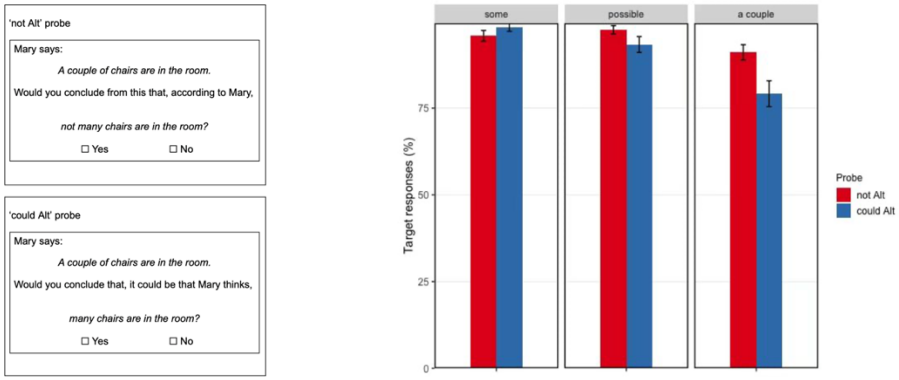


Fig. 1. Example trials (left) and results (right) for Exp.1.

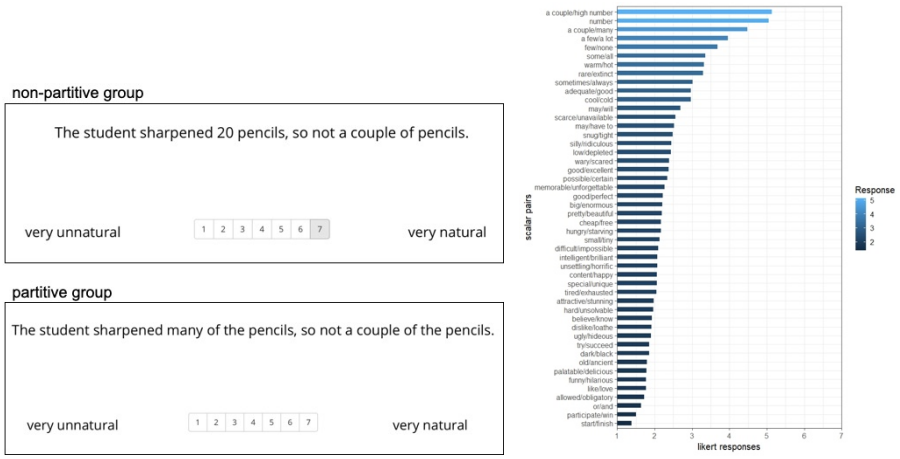


Fig. 2. Example trials (left) and results (right) for Exp.2.

**Selected references**: Sun, Chao, Ye Tian & Richard Breheny, 2018, *A Link Between Local Enrichment and Scalar Diversity* • Sun, Chao & Richard Breheny, 2022, *The role of Alternatives in the interpretation of scalars and numbers: Insights from the inference task*