

The Effect of Precision and Context on Social Perception

Recent work has unveiled a link between the semantic, pragmatic and social components of the meaning of different forms (McCready 2012, Acton & Potts 2014; Beltrama 2016). We extend this research by asking: what pragmatic factors underlie the ability of *(im)precision*—a phenomenon deeply embedded in pragmatic variation—to index speaker identity?

When using quantity expressions, speakers can be more or less precise (Pinkal 1995, Lasersohn 1999), demonstrating sensitivity to hearers' processing costs and needs when calibrating this choice (Dubois 1987; van der Henst et al. 2002). Recently, Beltrama (2018) showed that variation in precision is socially meaningful: speakers describing events with sharp numbers were rated higher than speakers using round numbers—e.g., "the package came at 9:03 vs. 9:00"—along both *favorable* (e.g. articulate) and *unfavorable* qualities (e.g. pedantic).

This paper addresses two issues. First, how does context affect the perception of precision? While there is consensus that precision is context-sensitive (Kennedy 2007, Burnett 2014), Beltrama's materials include no contextual information. Second, Beltrama's study included only attributes that correlate positively with *high* precision, leaving open the question of whether there are also social meaning traits that positively correlate with *low* precision.

We constructed dialogues in which Person A poses a question and Person B responds with a quantity expression. Participants rated Person B on 10 attributes. 4 attributes include dimensions from Beltrama (2018)—*articulate*, *intelligent*, *pedantic*, *uptight* (**G1**); 3 reflect a high degree of expertise on the part of the speaker—*knowledgeable*, *confident*, *pretentious* (**G2**); 3 reflect the benefit of suppressing details in conversation—*helpful*, *considerate*, *likable* (**G3**). We predict that G3 attributes, contrary to G1/G2, should show a positive correlation with imprecision. We manipulated the *expected relevance* of precision in the context via two factors: (i) **Stakes**: how urgent details are (**high stakes** vs. **low stakes**); (ii) **Proximity**: how close the stated quantity expression is to a target value quantity (**high** vs. **low proximity**). We crossed these two factors with the third factor **Precision**, which manipulates the degree of precision itself via sharp (**precise**) vs. round (**approximate**) numbers. 16 items (16 fil.) were crossed in 8 lists with a LSD. 97 subjects were recruited on MTurk and paid \$2.

Average ratings are plotted in Fig-1. Mixed-effect models (random intercepts for items/subjects) show an effect of precision for most **G1/G2** attributes, with sharp numbers being associated with higher ratings than round ones, but not for **G3** attributes. This confirms the variation in precision is indeed social meaning; however, its social meaning does not seem to contain dimensions that correlate with low precision. No context effect is found, with the exception of Uptight and Knowledgeable, for which the ratings are higher in the low stakes/low proximity condition. This suggests that, in general, relevance may only have a limited effect on the social perception of variation in precision; when a contextual effect is present, however, it suggests an inverse correlation between precision's social salience and pragmatic relevance.

Sample Item

High Stakes:

Person A sees someone walking on the curb and pulls over to ask for information.

Person A: Excuse me. I'm running on empty and only have gas for {**5 (high proximity) / 20 (low proximity)**} miles and my phone is dead. Where is the closest gas station?

Person B: There's one {**4.14 (precise) / 4 (approximate)**} miles down this road.

Low Stakes:

Person A sees someone walking on the curb and pulls over to ask for information.

Person A: Excuse me. I would like to have some food within the next {**5/20**} miles and my phone is dead. Where is the closest restaurant?

Person B: There's one {**4.14 (precise) / 4 (approximate)**} miles down this road.

Model Summary

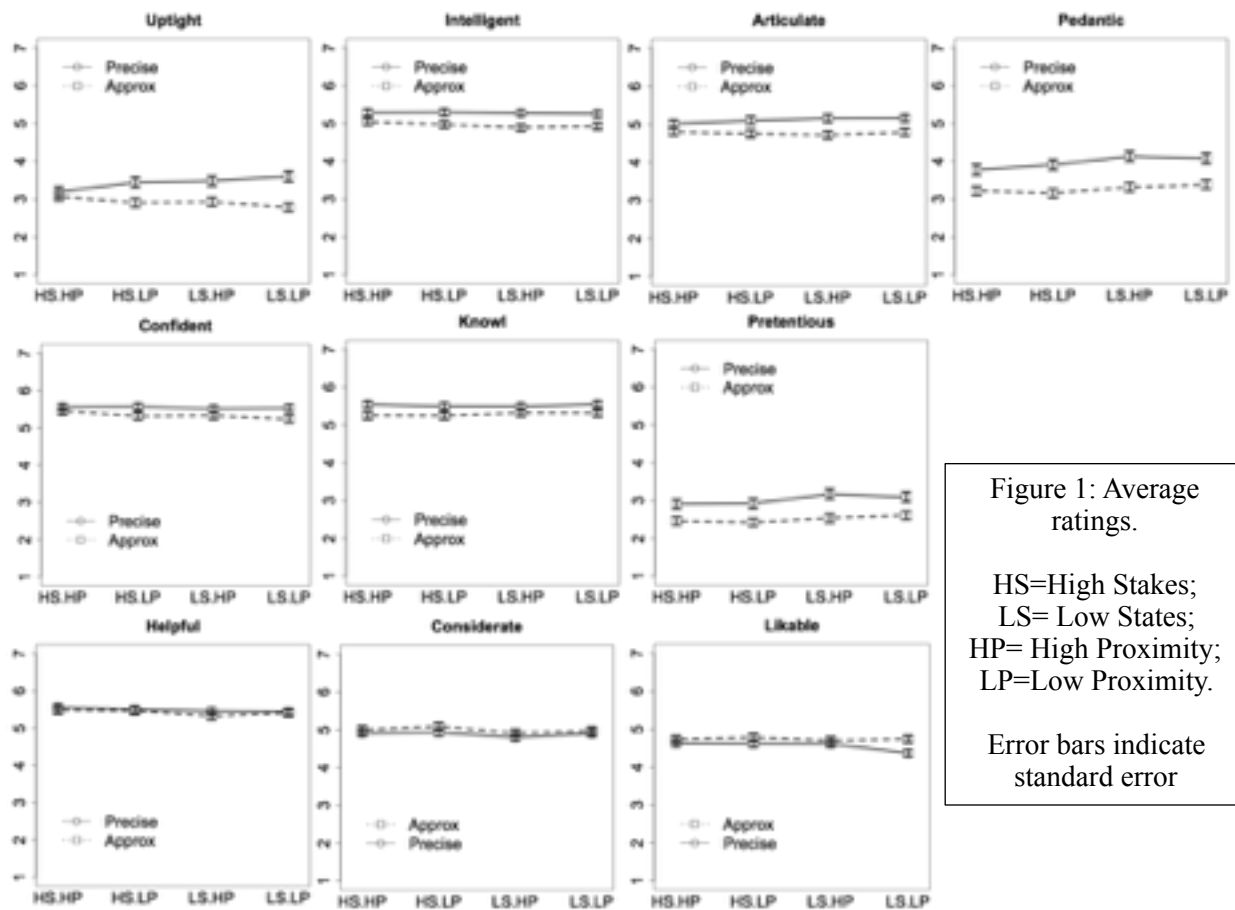
Main effect of Precision:

Group 1: **Articulate** ($\beta=0.27$, $p<.01$), **Intelligent** ($\beta=0.3$, $p<.001$), **Pedantic** ($\beta=0.34$, $p<.001$), Uptight ($\beta=0.17$, $p=0.20$)

Group 2: **Confident** ($\beta=0.13$, $p=.16$), **Pretentious** ($\beta=0.52$, $p<.0001$), Knowledgeable ($\beta=0.13$, $p=.16$)

Group 3: **Considerate** ($\beta=-0.12$, $p=0.21$), **Helpful** ($\beta=-0.06$, $p=0.97$), **Likable** ($\beta=-0.12$, $p=0.19$)

Interaction High precision/Low Stakes: **Uptight** ($\beta=0.43$, $p<.05$), **Knowledgeable** ($\beta=0.30$, $p<.05$)



References. Beltrama, A. 2018. Precision and speaker qualities. The social meaning of pragmatic detail. *Linguistics Vanguard*. Burnett, H. 2014. From quantification and intensification to slack regulation. *CLS* 48. Kennedy, C. 2007. Vagueness and grammar: *Linguistics and Philosophy*. Krifka, M. 2009. Approximate interpretations of number words: A case for strategic communication. *Theory and evidence in semantics*, 109–132. *CSLI*. Lasersohn, P. 1999. Pragmatic halos. *Language* 75(3). 522–551 Pinkal, M. 1995. Logic and lexicon. Solt, S., Cummins, C., & Palmović, M. 2017 The preference for approximation. *International Review of Pragmatics*.