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Politeness and Honesty Contribute Additively to the Interpretation of Scalar Expressions

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Abstract

Scalar terms have been the focus of much recent attention. People can interpret such terms narrowly, for example, interpreting *A or B* to convey *A or B but not both*, on the grounds that a speaker would have explicitly used a more informative term (i.e., *and*) had he or she been in a position to do so; or they can interpret such terms broadly (*A or B or both*). Examined here are the effects of politeness contexts and self-rated honesty on people's interpretation of the scalar connective *or*. In two experiments, it is shown that participants are less likely to adopt the narrow interpretation when the communicative context is face threatening, and that regardless of context, participants high in self-rated honesty adopt the narrow interpretation to a greater extent than those low in self-rated honesty. These results are consistent with the claim that an assumption of honesty underlies certain pragmatic inferences and suggest that personality may be an important source of individual differences in language interpretation.

Keywords

face threat, face work, experimentation, language choice, conversational analysis

When we communicate using language, or interpret others' attempts at communication, we are faced with decisions to do with honesty and politeness. Should you honestly tell your partner that their new and expensive coat makes them look stout, or

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should you politely tell them you love the coat? Is your partner telling you that your new haircut looks great because they honestly believe so, or rather because they do not want to hurt your feelings? In this article, we will examine for the first time whether people who see themselves as honest project that trait on others and hence tend to prefer more informative interpretations of scalar expressions. In addition, we will extend previous work on politeness to the interpretation of the scalar expression *or*. Our experiments will exploit recent advances in the fledgling literature on experimental pragmatics, and it is with a description of those advances that we will begin.

In the empirical study of language, a subdiscipline of experimental pragmatics has begun to emerge (for an overview, see Noveck & Reboul, 2008; Noveck & Sperber, 2007). Dedicated to understanding the extralinguistic factors that underlie linguistic communication, experimental pragmaticians empirically discriminate between theories of linguistic pragmatics. All these theories have their roots in the work of H.P. Grice (1989) who sought to specify the shared principles that allowed participants in a talk exchange to communicate successfully. Grice's seminal work on pragmatics has led to a variety of theoretical accounts of linguistic pragmatics (see, Horn, 2004; Levinson, 2000; Sperber & Wilson, 1986/1995), and experimental work on pragmatics has largely focused on teasing these theories apart. The most studied phenomenon in the literature on experimental pragmatics is scalar implicature.

Most speakers of English would agree that the utterance in (1) below can be interpreted as conveying (2).

(1) Some of the audience loved your talk
(2) Not all of the audience loved your talk

Although logically *some* means at least one and possibly all, listeners infer that the speaker's intended meaning was *not all* (for studies of this phenomenon, see Feeney, Scrafton, Duckworth, & Handley, 2004; Huang & Snedeker, 2009a, 2009b; Noveck, 2001; Papafragou & Musolino, 2003). A similar phenomenon occurs for the utterance in (3) which is an example of the use of disjunction. Logically, *or* means that either or both of the disjuncts can be true, but most adults will interpret (3) to mean (4) in which only one of the disjuncts can be true (see Chevallier et al., 2008; Noveck, Chierchia, Chevaux, Guelminger, & Sylvestre, 2002). Inclusive disjunctions allow both disjuncts to be true, whereas when only one disjunct can be true, the disjunction is exclusive.

(3) We will give you a pay rise or a company car
(4) We will give you a pay rise or a company car, but not both

Both these examples are used to illustrate the phenomenon of scalar inference (see, Geurts, 2010) and in each case the most common interpretations arise because both *some* and *or* can be placed on informativeness scales (Horn, 1984). In the case of *some*, a more informative term on the scale is *all*. A cooperative speaker would have made (1) more informative by replacing *some* with *all,* had he been in a position to do

so. That he did not do so, indicates that the speaker did not have evidence that *all* was the case and in adherence with the maxim of quantity, used the most informative term, that is *some*, that his epistemic state would allow (see, Horn, 1984). In the case of *or, and* is the more informative point on the scale, and a cooperative speaker would have replaced *or* with *and* had he been in a position to do so. That he did not say *and* indicates that the speaker intended *or* exclusively. In general, utterances containing weaker terms from ordered informativeness scales are commonly interpreted to imply that the speaker was not in a position to use the stronger term. We will refer to these interpretations as narrow (some but not all; A or B but not both). Broad interpretations, in contrast, are consistent with the logical meanings of the terms (some and possibly all; A or B or both).

People often, but not always, adopt the narrow interpretation of scalar terms. Broad interpretations are more common early in development (Feeney et al., 2004; Noveck, 2001; Papafragou & Musolino, 2003; for a reinterpretation of this early developmental work, see Katsos & Bishop, 2011), under memory load (De Neys & Schaeken, 2007), under speeded conditions (Bott & Noveck, 2004), and in certain linguistic contexts (Breheny, Katsos, & Williams 2006). For our current purposes, an important class of contexts that increase the likelihood of broad interpretations was discovered by Bonnefon, Feeney, and Villejoubert (2009). These contexts are face threatening. "Face" here refers to the sense of positive identity or public self-esteem that is projected by all people (see Brown & Levinson, 1978/1987). All people are motivated to protect the face of themselves and others and the protection of face is known as face work. Face may be threatened if a speaker disagrees with, criticizes, or embarrasses a listener. Speakers may take steps to minimize the threat which an utterance makes to the face of their interlocutor. One such step is to be polite and in this context politeness is a linguistic strategy that decreases face threat.

Listeners appear to take threat-mitigating strategies into account when interpreting utterances. For example, Bonnefon and colleagues (Bonnefon & Villejoubert, 2006; Pighin & Bonnefon, 2011) showed that the uncertainty expression *possibly* is interpreted as conveying a higher probability when it is used in a face-threatening utterance. Now compare (5) with (1) above.

(5) Some of the audience hated your talk

Bonnefon et al. (2009) showed that participants are more likely to adopt a broad interpretation of face-threatening utterances such as (5) than of face-boosting utterances such as (1). When the statement threatens the face of the listener, people think that the speaker may have been in a position to use the stronger term *all*, but used the scalar term instead to mitigate the face threat (Experiments 1 and 2). One of the aims of the experimental work to be presented here was to extend the effects of politeness to the logical connective *or* and we predicted that *or*, when used in a face-threatening context such as (6), would be more likely to be interpreted in its broad sense than when used in a face-boosting context such as (3).

(6) We will cut your salary or take away your company car

Our main goal, though, relates to Experiment 3 in Bonnefon et al. (2009) where it was found that people judged the use of *some* in face-threatening contexts to be kind and tactful but not to be entirely honest. This result raises the interesting possibility that people perceive the narrow meaning of *or* to be more honest than its broad meaning. At the same time, because of the robust phenomenon known as social projection (Robbins & Krueger, 2005), people who see themselves as very honest are more likely to expect other speakers to show the same honesty (Bonnefon, 2010). Therefore, people who see themselves as very honest should be more likely to interpret *or* narrowly.

Note that speakers who are committed to honesty may not only be committed to making true statements in the logical sense (i.e., the sense of not saying something that is false) but they may also be committed to informativeness (i.e., making the most informative true statement that is compatible with their epistemic state). The narrow interpretation of *or* relies on the assumption that speakers use the most informative expression allowed by their epistemic state, and one can only use the quantity maxim to motivate implicature detection in this way if one makes that assumption. In other words, an expectation of honesty may underlie the scalar inferences associated with terms such as *some* and *or*. For example, *A or B* is interpreted as *A or B but not both* because an honest speaker would have used *and* had he been in a position to do so. People who rate themselves as more honest may possess this expectation to a greater extent than those who rate themselves as less honest. Accordingly, more honest people may tend to adopt the narrow interpretation of scalar terms to a greater extent than less honest people. This possibility can be tested by recording people's self-rated honesty, and asking them to interpret scalar expressions in different contexts. In our two experiments, we provide the very first test of this hypothesis.

Experiment

We investigate the interpretation of the scalar connective *or*. Previous research (Bonnefon et al., 2009; Bonnefon & Villejoubert, 2006) showed effects of politeness on terms such as *possibly* and *some*, but never yet for *or*. In addition, the relation between self-perceived honesty and the interpretation of scalar terms has never before been tested. This experiment has the double aim of extending politeness effects to *or*, and investigating whether honesty encourages narrow interpretations.

Method

Participants were 123 volunteers (29 men; mean age = 20 years) recruited at Queen's University Belfast. They were randomly assigned either to the face-boost group or the face-threat group. All participants read three scenarios wherein a character announced to another that an event X or an event Y would happen. In the face-boost group, both

events were desirable, whereas in the face-threat group both events were undesirable. For example, the face-boost version of the Author scenario read,

> Imagine that Clare is a children's author. Over lunch her publisher tells her that the sales of her last book have been so good that she will receive increased royalties or she will be entitled to an upfront payment for her next book. In your opinion, does this rule out the possibility that Clare will receive increased royalties and be entitled to an upfront payment for her next book?

In the face-threat group, the Author scenario read instead,

> Imagine that Clare is a children's author. Over lunch her publisher tells her that the sales of her last book have been so poor that she will receive decreased royalties or she will be denied an upfront payment for her next book. In your opinion, does this rule out the possibility that Clare will receive decreased royalties and be denied an upfront payment for her next book?

Participants answered on a 10-point scale anchored at *Does not rule out the possibility at all* and *Completely rules out the possibility.* Higher ratings on the scale correspond to greater agreement with the narrow interpretation of *or*. The order in which participants read the three scenarios was counterbalanced across questionnaires.

After they had responded to the four problems, participants answered the nine questions of the Integrity/Honesty/Authenticity Scale available from the International Personality Item Pool website (Goldberg et al., 2006, http://ipip.ori.org/). Previous work with the scale (see Peterson & Seligman, 2004) has shown it to be reliable (Cronbach's $\alpha = .72$).

Results

The mean score on the personality scale was 28 ($SD = 2.9$) out of a maximum of 45. Although it achieved a rather low Cronbach's α of .52, we summed all items in order to compute a composite Honesty score, which we then standardized to obtain an Honesty index for each participant. We then computed an individual index of Agreement with the narrow interpretation of *or,* by averaging the three responses given to the four problems, and standardizing this average.

We finally regressed the Agreement index on the Honesty index, the face condition (dummy coded), and their interaction term. This analysis detected a main effect of Face, $\beta = -.19$, $t = -2.1$, $p = .04$ (all p values are two-tailed), as well as a main effect of Honesty, $\beta = .28$, $t = 2.0$, $p = .04$, but no interaction effect, $\beta = -.12$, $t = -0.9$, $p = .36$. Figure 1 (top) displays the mean value of the Agreement index as a function of the Face condition and the tier of Honesty index (low, moderate, high). As can be seen from Figure 1, face-threat contexts negatively affected the agreement with the narrow interpretation of *or*, whereas Honesty positively affected this agreement.

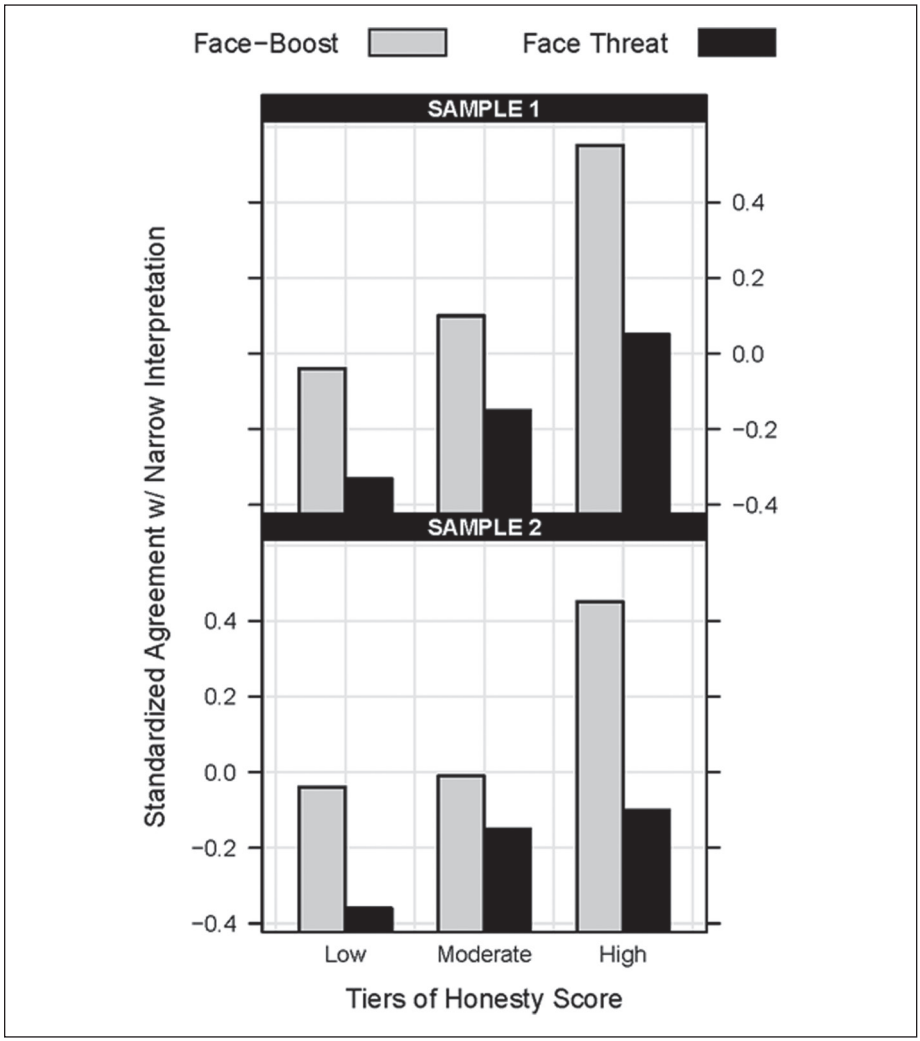

Figure 1. Mean value of the Agreement index as a function of the Face condition and the tier of Honesty index (low, moderate, high) from the first (top panel) and second (bottom panel) samples tested.

Replication

We conducted a replication of our experiment on an independent sample of 147 students at Queens' University Belfast (28 males; mean age = 20 years), 1 year after we ran the first experiment. The methods were exactly similar to those of the first experiment. This time, the mean score on the Honesty scale was 35.4 (*SD* = 4.0), and it achieved

its expected reliability ($\alpha = .67$). The regression analysis gave strikingly similar results to that of the original experiment. There was a main effect of Face, $\beta = -.22$, $t = -2.6$, $p = .01$, as well as a main effect of Honesty, $\beta = .23$, $t = 2.1$, $p = .04$, but no interaction effect, $\beta = -.12$, $t = -1.1$, $p = .27$. Figure 1 (bottom) displays the mean value of the Agreement index as a function of the Face condition and the tier of Honesty index (low, moderate, high). Just as in the original experiment, face-threat contexts negatively affected the agreement with the narrow interpretation of *or*, whereas Honesty positively affected this agreement.

Discussion

The experimental results we have described here confirm the predictions that we made about the effects of politeness and honesty. First, they extend the effects of politeness considerations to *or*. Although *some* has received more attention from experimental pragmaticians than has any other scalar term (for a review, see Noveck & Reboul, 2008), it is important to establish the generality of those contexts which promote broad interpretations of scalar terms. We have shown that when the disjuncts are face threatening, *or* is interpreted as being more consistent with a state of affairs where both disjuncts hold than it is when the disjuncts are face boosting. We interpret this as being due to participants taking into account likely strategies designed to mitigate the face threat of a negative utterance. These novel effects of politeness strengthen our original argument (Bonnefon et al., 2009) and provide more evidence for the importance of politeness in social psychological contexts more generally (Stephan, Liberman, & Trope, 2010; Bonnefon, Feeney, & De Neys, 2011).

Our results also show that people who perceive themselves as honest are more likely than people who view themselves as less honest to give a scalar term its maximally informative interpretation. This novel finding helps explain why the use of *some* is viewed as less than honest when *all* is true (Bonnefon et al., 2009). The result is also consistent with the claim that an assumption of honesty underlies the detection of a scalar implicature: It is only safe to interpret *A or B* as *A or B but not both* if one assumes that the speaker has used the most informative term which his or her epistemic state allows. Thus, politeness consideration and self-perceived honesty have additive effects on the interpretation of scalar terms. In other words, high self-perceived honesty makes one more likely to reach narrow interpretations of scalar terms, but does not appear to make one any less sensitive to the demands of politeness.

These findings suggest that experimental pragmaticians might usefully consider the impact of individual differences in personality characteristics on rates of implicature detection. It is known that there are considerable individual differences in how adult and child participants interpret scalar terms (e.g., see results described in Noveck, 2001; Bott & Noveck, 2004; Feeney et al., 2004; Papafragou & Musolino, 2003). Up until now only cognitive factors (Bonnefon, De Neys, & Feeney, 2011; Bott & Noveck, 2004; De Neys & Schaeken, 2007; Feeney et al., 2004) or pragmatic competence (Nieuwland, Ditman, & Kuperberg, 2010) have been considered as a cause of these

individual differences. Our results suggest that individual differences in personality, such as in self-rated honesty, may be associated with differences in the propensity to adopt narrow interpretations of scalar terms. Because these differences appear to occur in communicative contexts regardless of the presence or absence of face threat, our results suggest that the effects of personality on implicature detection are not due to differential sensitivity to communicative context but rather to more profound differences in underlying expectations about speaker honesty.

Our results open several avenues for further study. One possibility might be to examine the effects of other personality variables such as emotional intelligence (Mayer, Roberts, & Barsade, 2008) on pragmatic inference. In addition, there may be effects of individual differences in honesty on people's tendency to use politeness strategies in any context. For example, there is some evidence that children only fully master the need to tailor the manner in which a request is made to the cost of the request by 9 years (Axia & Baroni, 1985). Related to politeness is children's willingness to tell lies. By the age of 3 children will tell white lies (Talwar & Lee, 2002) and there is recent evidence that they do so for prosocial reasons. For example, Talwar, Murphy, and Lee (2007) showed that children as young as 4 years of age who are given an undesirable gift will lie to the giver about its desirability. The role of honesty in the use of all these politeness strategies would be a fascinating topic for future study.

In conclusion, understanding how and why people interpret scalar terms as they do is important in a vast range of social and communicative settings. To the list of factors known to determine how people interpret scalar terms we can now add honesty: People who view themselves as honest are more likely to interpret scalar terms narrowly, even in the face of contextual manipulations known to promote broad interpretations. The finding that personality affects conversational inference in such a manner is entirely novel and has potentially important implications for theories of politeness as well as for general theories of linguistic pragmatics.

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