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Running Head: Excuses as indirect replies

"It's hard to write a good article." The online comprehension of excuses as indirect replies.

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Abstract

In an eye-tracking experiment we examined how readers comprehend indirect replies when they are uttered in reply to a direct question. Participants read vignettes that described two characters engaged in dialogue. Each dialogue contained a direct question (e.g., *How are you doing in Chemistry?*) answered with an excuse (e.g., *The exams are not fair*). In response to direct questions, such indirect replies are typically used to avoid a face-threatening disclosure (e.g., doing badly on the Chemistry course). Our goal was to determine whether readers are sensitive during reading to the indirect meaning communicated by such replies. Of the three contexts we examined, the first described a negative, face-threatening situation, the second a positive, non-face threatening situation, while the third was neutral. Analysis of reading times to the replies provides strong evidence that readers are sensitive online to the face-saving function of indirect replies.

Keywords: face management, facework, indirect meaning, indirect replies, discourse processing.

Word Count: 2,941

Introduction

Many aspects of language use involve the indirect communication of meaning (Pinker, Novak, & Lee, 2008). For example, someone might enquire about a friend's experience on an undergraduate course by asking "*How are you doing in Chemistry?*" If the friend answered with an excuse that did not directly answer the question, such as "*The exams are not fair*", their response would likely be interpreted negatively (i.e., that they were not doing well on the course). The fact that the question was not answered directly by the addressee is an important cue that a negative meaning is likely being communicated (Grice, 1975).

In three experiments, Holtgraves (1998) examined how people process indirect replies during comprehension and found that indirect replies were interpreted as conveying negative information in situations where a direct reply would be *face-threatening.* Holtgraves proposes that politeness theory (Brown & Levinson, 1987) can account for people producing indirect replies in situations that involve the potential disclosure of negative information. Maintaining one's own face (and not threatening that of an interlocutor) is an important aspect of co-operative behaviour. Holtgraves argues that co-operation in dialogue means that the production of an utterance that appears to be an irrelevant reply signals to the recipient that a negative meaning is being communicated, but in a face saving manner.

To date, there has been little examination of how indirect replies are processed as a conversation unfolds in real time (see Basnáková, Weber, Petersson, van Berkum, & Hagoort, 2014, for an fMRI investigation). In this section we outline a possible account of how indirect replies may be understood during online comprehension. In the study that follows we measure readers' eye movements as they read contextualized indirect replies. We predict that reading of an indirect reply ("*The exams are not fair*") triggers a search for a possible negative meaning that would be face-threatening to the speaker, if it was communicated directly. This search for a negative meaning can be immediately resolved when the indirect reply is preceded with a Negative context (see Example). As a result, the reply should be processed fluently.

Example

Roberta and Andy are friends. Roberta is taking introductory Chemistry this semester…

…and is struggling on her course. (Negative context)

…and is excelling on her course. (Positive context)

…that she attends on Tuesday afternoons. (Neutral context)

Andy asked "How are you doing in Chemistry?"

She replied "The exams are not fair." (Indirect reply)

Andy planned to take the same course the following year. He was hopeful the course would be interesting.

In contrast, the same indirect reply should be read less fluently following a Positive context. This is because a negative meaning inference of the indirect reply (e.g., that Roberta is not doing well) would be *inconsistent* with the positive context, resulting in a processing disruption (e.g., Albrecht & O'Brien, 1993; Stewart, Haigh, & Kidd, 2009). It takes time to resolve such inconsistencies. We would expect longer reading times on the indirect reply itself when the prior context is positive. This processing difficulty may also carry over to reading of subsequent text.

Similarly, reading of the indirect reply may initially be disrupted following a Neutral context. Without sufficient context, readers must infer why the situation might be face-threatening for the addressee. However, once the inference has been made, there should be no lasting disruption to the process of reading. Thus, we would expect longer reading times on the indirect reply but not on the subsequent text.

Experiment

Method

Participants

Twenty-four native English speakers from Northumbria University were recruited via opportunity sampling. Each participant was compensated £5.

Design & Materials

Experimental items were generated via a norming study where thirty-three participants, who did not take part in the eye-tracking experiment, were presented with the first three lines of each version of each context and were asked to rate how negative or positive (from -5 to +5) the sentiment of the information revealed by a subsequent reply was likely to be. Seventy-two vignettes were created that described two fictional characters engaged in dialogue. There were three versions of each vignette (Context: Negative *vs.* Positive *vs.* Neutral). The norming study confirmed that the Negative contexts were seen as biased towards a reply likely to reveal negative information (-3.6 on the scale), the Positive to reveal positive information (3.66 on the scale), and the Neutral to reveal neutral information (0.45 on the scale). The 72 vignettes were spilt into three presentation lists using a repeated measures Latin squared design. Each list contained 24 experimental items, 24 filler items (that were all of the same length as the experimental items but did not involve indirect replies) and three practice items. Each list was read by eight participants. The full set of experimental items is available from the corresponding author upon request.

All vignettes followed the same structure. Within each scenario, all sentences were lexically identical except for sentence two.

Procedure

Testing took place in a dedicated eye-tracking cubicle. Participants were provided with written and verbal instructions and sat in front of the display monitor, with the experimenter seated out of their line of sight. Participants held a controller in both hands with elbows resting on the table. The head was stabilized using a chin and forehead rest positioned 80cm from the monitor and they read the vignettes silently. They were informed that comprehension questions would randomly follow half of the vignettes. Eye movements were recorded using a desktop mounted Eyelink 1000. Viewing was binocular and eye movement recordings were sampled from the right eye at 1000Hz. Vignettes were presented in size 20 Arial font on a monitor using EyeTrack 0.7.10k stimulus presentation software. No other programs were running at the same time. The Eyelink 1000 was calibrated using nine fixation points. Each trial began with a gaze trigger. Fixation on the trigger caused the vignette to appear. After reading a vignette participants pressed a button on the handheld controller to advance.

Each participant read one presentation list containing 24 experimental items plus 24 filler items that were all of the same length as the experimental items but did not involve indirect replies. The first three trials were practice items, meaning that each participant read 51 vignettes in total. Vignettes were presented in a different random order to each participant. Comprehension questions followed 50% of the items and did not probe the content of our manipulation. Questions required a ‘yes’ or ‘no’ response on a handheld controller and were solved with a mean accuracy of 87%.

Results

Analysis

The experimental items were split into two analysis regions, the Critical Region, (e.g., '*The exams are not fair.'*), and the Post-Critical Region (e.g., *Andy planned to take the same course the following year*.) For any one item, these regions were lexically identical across the three conditions. We analysed our data using four measures. First pass reading time is the sum of all fixations within a region of interest from the eye first entering the region until exiting either to the left or the right. First pass regression out is the percentage of trials on which regressive saccades are made into an earlier region. Regression path time is the sum of all fixations from the eye first entering a region until first exiting the region to the right, including all re-reading of previously read text. Total reading time is the sum of all fixations within a region of interest. Data were processed using Windows EyeDoctor 0.6.5 and eye movement measures calculated using Windows EyeDry 0.4.5. An automatic procedure pooled fixations shorter than 80 msec. with adjacent fixations, excluded fixations that were shorter than 40 msec. if they were not within three characters of another fixation, and truncated fixations longer than 1,200 msec. Table 1 displays the descriptive statistics calculated using *lsmeans* (Lenth & Hervé, 2015).

Analyses of reading times in each region were performed using linear mixed models with the *lme4* package (Bates, Maechler, Bolker, & Walker, 2015) within the *R* Environment for Statistical Computing (R Development Core Team, 2015). Logit mixed models using the *glmer* function were used for the binomial First Pass Regressions Out (FPRO) analysis (Jaeger, 2008). Condition was a fixed effect and maximal random effects structures were used on all the reading time measures: random intercepts for participants and items, as well as by-participant and by-item random slopes (Barr, Levy, Scheepers, & Tily, 2013). The one exception to this was on First Pass reading times to the Post-Critical Region where the full model did not converge. For this analysis the most maximal model used random intercepts for participants, and random intercepts and slopes for items. On the FPRO measure as fully maximal models did not converge, we report separate by-participants and by-items models. On the Critical and Post-Critical Regions, the by-participants analyses involve random intercepts and slopes, while the by-items analyses involve only random intercepts. We report the parameter estimates of the fixed effect (Condition), and associated *t*-values (for reading time measures) using restricted maximum likelihood estimation and *z*-values (for binomial measures) using Laplace approximation. Contrasts involved the dummy coding of the levels of our fixed factor (with the Negative context condition as the reference level). We take values of the *t*-statistic and *z*-statistic at the level of 1.96 as approximating significance at the .05 alpha level.

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Table 1 about here

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Table 2 about here

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Critical Region

The results in Table 2 show that on First Pass reading times, excuses in the Positive context condition were read more slowly than in the Negative context condition (919 ms., *vs.* 815 ms.), and excuses in the Neutral context condition were read more slowly than in the Negative context condition (957 ms., *vs.* 815 ms.). Pairwise comparisons revealed no significant difference between the Neutral and Positive conditions (957 ms. *vs.* 919 ms., p = .44). The same pattern emerged on Total Time to this region with excuses in the Positive context condition read more slowly than in the Negative context condition (1,207 ms., *vs.* 1,086 ms.), and excuses in the Neutral context condition were read more slowly than in the Negative context condition (1,185 ms., *vs.* 1,086 ms.). Pairwise comparisons revealed no significant difference between the Neutral and Positive conditions (1,186 ms., *vs.* 1,207 ms., p = .64). No statistically robust effects emerged on either the Regression Path or First Pass Regressions Out measures.

Post-Critical Region

The results in Table 2 show no statistically robust effects on measures of First Pass, Regression Path, or Total Time measures. However, there was an effect of First Pass Regressions Out such that there were more regressions out of this region in the Positive context condition relative to the Negative context condition (12% *vs.* 6%), but no difference in the number of regressions out of this region in the Neutral context condition relative to the Negative context condition (7% *vs.* 6%).

Discussion

In an eye-tracking experiment we examined how indirect replies were processed in each of three contexts (Negative *vs.* Positive *vs.* Neutral). We examined whether readers were sensitive online to a search for negative meaning triggered by the use of indirect replies in the form of excuses. Reading time of the indirect replies was slow when those replies appeared in Positive and Neutral contexts, relative to when they appeared in Negative contexts. The effect on First Pass times to the critical region shows that sensitivity to the negative meaning implied by excuses occurs before the eye exits this region of text. This suggests that people are sensitive to the face-saving function of indirect replies during the processing of written conversation as it unfolds in real time. This pattern of data is compatible with the view that readers, when they encounter an indirect reply in the form of an excuse, search for a possible negative meaning. When a possible negative meaning is available from context, processing proceeds without disruption. When context does not offer a possible negative meaning, disruption to processing occurs.

During comprehension of the post-critical region of text, we found an increase in regressive eye movements out of this region in the Positive relative to the Negative context condition (but no difference in regressions out of this region in the Neutral versus Negative context). This is consistent with the view that readers are sensitive to the negative information communicated by an excuse used as an indirect reply; in the Positive context condition readers exhibit disruption in this region associated with reconciling a possible negative meaning inference with prior positive information. In contrast, for the Neutral context the disruption that emerged on reading of the indirect reply itself does not continue past that region of text. We propose that this is because readers make the inference that the reply involves the disclosure of negative information, and the reader's mental model associated with the situation is updated to reflect this fact. Once a possible negative meaning is inferred, processing proceeds without further disruption.

Our results provide good evidence that readers are sensitive to the dynamics involved in the interactions described by our vignettes such that interlocutors strive to maintain face in potentially face threatening contexts and that this sensitivity emerges as indirect replies themselves are processed.

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