

## *How does complaint realization affect third parties?*

### *A psychophysiological study of the emotional correlates of Twitter complaints*

**Keywords:** complaints, Twitter, psychophysiology

#### **Introduction**

In the current era of digitalization, there is an increasing interest in the expression of emotions in online communication. However, to date, how people *perceive* and evaluate online speech acts remains largely unexplored. This paper offers an experimental contribution to negative discourse research by addressing the issue of how different realizations of complaints shape (im)politeness and emotional perceptions.

Customers' decisions and their attitudes towards companies are influenced to a large extent by other customers' comments (Ludwig et al. 2013; Yin et al. 2014). In that context, the fact that negative—as well as positive—emotions easily spread from one customer to the next (Hatfield 1994), in particular on the social media (Widdershoven 2019), raises the questions of 1) which components of complaints are most likely to spread negativity to other customers and 2) the impact of different linguistic realizations of online complaint components in this phenomenon of emotional contagion. This contribution focuses on the first issue.

Emotional contagion between customers makes it crucial for customer service employees to deal with negative comments in a way that is satisfactory for both the customer and the company. Therefore, if they can identify the comments that constitute the strongest threat to their company, and if they tailor their responses to these comments, they might be able to avoid or, at least, mitigate the undesirable effects of negative emotional contagion. Against this background, it is crucial to know how third parties, i.e., other users of public online platforms such as Twitter, are affected by how a complaint is linguistically realized, because these differences in the expression of negativity are likely to shape these users' subsequent purchase decisions.

Negative emotional contagion has already been experimentally investigated by Fox et al. (2018). These authors collected third parties' psychophysiological responses to negative online reviews. The present study complements theirs, as they did not compare such objective responses to subjective judgments about different realizations of complaints. In addition, I focus on Twitter complaints, which are in general shorter than reviews, among other reasons because of the text size limit on Twitter.

Following Decock & Depraetere's (2018) definition, a complaint consists of four components which can be made linguistically explicit. Component "A" refers to the event about which the customer is complaining. Component "B" refers to the expression by the complaining customer of some degree of dissatisfaction with respect to the complainable. Component "C" identifies the person or institution that is considered by the customer to be responsible for the complainable. Finally, component D concerns the customer's wish for the offence to be remedied. Each of these components can be realized in different ways.

I put to the test the hypotheses that: 1) both negative and positive messages should trigger stronger psychophysiological responses than neutral messages, and more so for negative messages; 2) complaints including explicit customer dissatisfaction should increase the strength of these responses; 3) positive and negative messages should attract attention more than neutral messages; and 4) the strength of objective responses to complaints positively correlates with the intensity of subjective judgments about these complaints.

## **Methods**

These hypotheses will be tested using a reading task experiment designed on E-Prime (see below) immediately followed by an offline questionnaire. In this questionnaire, the same participants as in the reading task will be asked to assess the same Twitter messages in terms of perceived customer dissatisfaction, offensiveness, and (im)politeness (using 7-point rating scales).

The stimuli used in the experiment originate from an already available small corpora of authentic Twitter messages collected by students at the University of Ghent. In line with the guidelines published by the Association of Internet Researchers (Franzke et al. 2020), I have minimized the likelihood that ethical issues will arise: it will not be possible for any third party to retrieve an original Twitter message and the stimuli do not contain any sensitive or personal information.

For the reading task experiment, I predict a main effect of valency; that is, both negative and positive messages should trigger stronger psychophysiological responses than neutral messages. These responses should be strongest for complaints including a linguistically realization of customer dissatisfaction. In particular, all other thing being equal, positive messages and complaints should increase fixation durations because of longer fixations on evaluative positive and negative expressions, relative to neutral messages. Positive correlations are expected, for complaints, between the intensity of the psychophysiological responses in the reading task experiment and the degree of perceived customer dissatisfaction in the offline questionnaire.

### ***Participants***

100 female students at Ghent University will participate in the experiment. They will be retributed 4€ for a 20-minute experiment.

### ***Stimuli***

Four types of stimuli will be used in this experiment: A-type complaints, AB-type complaints, positive messages, and neutral ones. A-type complaints are messages in which only a complainable is linguistically realized. In AB-complaints, both a complainable and customer dissatisfaction are expressed. Component B of the complaint (customer dissatisfaction) will be expressed by using negative evaluative adjectives, emoji, and multiple exclamation marks. Positive messages involve customers praising the NMBS or thanking them for their help, and neutral messages are simple requests for information that do not suggest the existence of a complainable. These positive and neutral messages were retrieved on the Twitter webpage of the NMBS. The content of the stimuli has been slightly modified for ethical reasons and in order to minimize the possible effects of confounding variables, such as level of (in)formality.

### ***Procedure***

In the reading task, a unique presentation order was determined to avoid priming effects due to several messages of the same type following each other. Thus, an A-complaint, an AB-complaint, a neutral message and a positive message always followed and preceded a message belonging to a different category. This order was obtained by selecting several 8-item (2 per category) random combinations following this non-contiguity rule and grouping them in a sequence of 40 items while still complying with the non-contiguity requirement.

The tweets will be displayed as images in E-Prime, which makes it possible to include emoji in the AB-complaints and positive messages. One message will be presented at a time, at the center of the screen, for an infinite duration so that the participant can read it at his/her own

pace. After the participant presses the left click of the mouse, an inter-stimulus interval (ISI) consisting in a blank screen with a fixation cross will be displayed for 2.5s.

Eye fixation durations, heart rate variability (HRV), and skin conductance levels will be collected using an Eyelink eye-tracker compatible with E-Prime. Areas of interest (AOIs) will be defined for the evaluative positive vs. negative adjectives, ironic/non-ironic hashtags, and positive/negative emoji.

### **Approach for data collection and statistical analysis**

Pre-analysis of psychophysiological data will be carried out with software specifically designed for advanced HRV analysis including artifact rejection (Kubios). The root mean square successive difference of normal-to-normal intervals, in millisecond, will be taken as an index of HRV. These data will be fitted using linear mixed models (LMM) in R, as these models are appropriate to the nature of my data and predictions: the predictor variables are valency (negative/positive/neutral), expression of dissatisfaction (AB-complaints vs. A-complaints), and message length, i.e., number of words; the outcome variables are the psychophysiological responses and the ratings on the judgment scales in the offline questionnaire. LMM will also be used to test the relationship between objective responses (reading experiment) and subjective judgment strength (offline questionnaire). Random effects for the variables of participant, stimulus, and valency of the preceding item, will be included in the models. The experiment will be carried out in April-May 2020, and the data analysis and results will be available for the conference in July.

### **References**

- Decock, S. & I. Depraetere. 2018. "(In)directness and complaints: A reassessment." *Journal of Pragmatics* 132: 33-46.
- Decock, S., I. Depraetere & N. Ruytenbeek. 2019. "Method triangulation in discourse-pragmatic research on complaints." Paper presented at the 16th *International Pragmatics Association conference*, Hong-Kong, 9-14 June 2019.
- Fox, A., Deitz, G., Royne, M. and Fox, J. 2018. "The face of contagion: consumer response to service failure depiction in online reviews." *European Journal of Marketing* 52 (1/2): 39-65.
- Franzke, A. S., Bechmann, A., Zimmer, M., Ess, C. & the Association of Internet Researchers. 2020. *Internet Research: Ethical Guidelines 3.0*. <https://aoir.org/reports/ethics3.pdf>
- Hatfield, E., Cacioppo, J.T. & Rapson, R.L. 1994. *Emotional Contagion*. New York, NY: Cambridge University Press.
- Ludwig, S., de Ruyter, K., Friedman, M., Brügger, E.C., Wetzels, M. & Pfann, G. (2013), "More than words: the influence of affective content and linguistic style matches in online reviews on conversion rates". *Journal of Marketing* 77 (1): 87-103.
- Widdershoven, S. 2019. *Disentangling a web of emotions. The pervasiveness of emotional contagion on social media in service settings*. PhD dissertation, Radboud University of Nijmegen.
- Yin, D., Bond, S. & Zhang, H. 2014. "Anxious or angry? Effects of discrete emotions on the perceived helpfulness of online reviews". *MIS Quarterly* 38 (2): 539-560.