**Trust-building Strategies in Corporate Discourse: An Experimental Study**

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**Abstract**

This paper presents a scenario-based experiment designed to test the effects of trust-building strategies, realised in stance-taking acts, which a previous corpus-based study found to be salient features of stakeholder-facing corporate communication. The experiment relies on a between-subjects design in which a target group of subjects are exposed to trust-building strategies while another control group are not. We apply this paradigm to corporate discourse in the form of an About Us webpage produced by a fictitious multinational pharmaceutical company that has been accused by a whistleblower of corporate misconduct. The results of the study show that these strategies are indeed effective in fostering trust in the company and have an indirect positive effect on the perceived credibility of the company's denial in response to the allegations made by the whistleblower. The strategies are therefore able to mitigate the potential damage caused by public accusations of wrongdoing and help companies insure against future threats to their legitimacy and freedom to operate, as when their behaviour violates, or is said to violate, societal norms and values. Theoretically, the results provide insights into the psychological mechanisms of trust-building and reader response. Methodologically, the study contributes to the growing body of work using experimental methods in CDA by further demonstrating that experimentation can usefully complement more traditional discourse-analytical methods as a form of triangulation.

**Keywords:** experimental methods, triangulation, trust, credibility, denial, epistemic vigilance, stance, corporate discourse

## 0. Introduction

Large multinational corporations are routinely found to engage in business practices which are harmful to people, animals and the environment. Against a normative background in which they are expected to behave fairly and responsibly, corporations must, in the face of such controversies, work to retain or regain public faith and thereby uphold their position within society. This work is largely discursive work performed through texts like corporate social responsibility (CSR) reports and company websites. Such texts have therefore been the subject of investigation across a number of studies in Critical Discourse Analysis (CDA). Here, the linguistic resources for expressing stance or evaluation in particular have been found to play a fundamental part in discursive processes of corporate identity management and legitimation. We interpret these efforts as ultimately intended to attain trust. Whether trust-building strategies in discourse are actually successful in persuading audiences to invest their trust, however, is an empirical question. Although contemporary CDA places an emphasis on triangulation, and different means of triangulation have been developed, experimental methods are not normally a feature of CDA research. In this paper, we offer a framework for empirically assessing the influence of trust-building strategies in corporate discourse that is based in experimental methods. Specifically, we use a scenario-based experiment to investigate the effects of trust-building strategies which, realised in particular forms of stance-taking

act, have previously been identified as a salient feature of publicly directed corporate texts (Fuoli 2017). We postulate that these strategies work by appealing to two particular dimensions of trust: benevolence and integrity.

**1. Experimental methods in CDA**

Critical Discourse Analysis (CDA) most fundamentally involves the attribution of contextually-bound social-semiotic functions to the strategies and structures featured in texts (Fowler 1991; Fairclough 1989, 1995; Reisigl & Wodak 2001; van Dijk 1991, 1998). Inherent in CDA, thus, are claims concerning the effects of texts on audience attitudes, emotions, beliefs, values, judgements, perceptions, decisions and, ultimately, actions (Stubbs 1997). CDA, however, has been accused of conflating analysts' own interpretations of texts with those of typical or target readers (O'Halloran 2003; Widdowson 2004). As a result, CDA is said to risk over-interpreting the effects of particular textual properties, presenting subjective readings based on political motivations rather than empirically grounded analyses (Widdowson 2004). These problems arise in CDA due to a lack of reception studies as well as an under-theorisation of the reader more generally (Chilton 2005; Fowler 1996). Chilton (2005) argues that humans are in fact innately sceptical of textual input and therefore not as susceptible to the machinations of unscrupulous speakers as is sometimes assumed in CDA research. In order to address the issue of subjectivity and attest to the influence of specific textual features there is now a growing imperative for researchers to look beyond the text and whatever theory informs their analysis to find external support for their interpretations. As Cameron (2001: 140) states, CDA 'is enriched, and the risk of making overly subjective or sweeping claims reduced, by going beyond the single text to examine other related texts and to explore the actual interpretations their recipients make of them'. Scholars in CDA have therefore developed various methods of triangulation, including ethnographic data collection (Wodak 2011; Wodak et al. 1999), inter-analyst consistency checks (Baker 2015; Marchi & Taylor 2009), corpus-informed checks (Baker & Levon 2015; O'Halloran 2007; Coffin & O'Halloran 2006) and the grounding of analyses in psychologically plausible models of language such as found in Cognitive Linguistics (Hart 2015, 2016a). None of these approaches, however, empirically investigates the perlocutionary effects that specific textual choices are said to have on audiences. In other words, research in CDA typically stops short of asking whether readers respond to texts in the way predicted by one's theory.

To fully address questions concerning the reception of texts, empirical methods are required. Amid an evidence-based turn in CDA, then, we contend that experimental methods offer a valuable means of verifying claims pertaining to audience response which emerge from theory-driven analyses.[1] Experimental methods are not widely applied in CDA. There is, however, increasing call for and justification of their use (see Fuoli et al. 2017; Hart 2016b, 2017; Subtirelu & Gopavaram 2016). For example, Hart (2016b) showed that media preferences for transitive versus reciprocal verbs in reporting violent interactions between police and protesters had a significant effect on how readers assign blame for the violence and the level of aggression they perceive in the actors involved. In a similar context, Hart (2017) showed that fire metaphors conventionally used in media coverage of political protests facilitate support for police use of water canon as a means of response. In the context of corporate discourse, Fuoli et al. (2017) investigated the effectiveness of two contrasting trust-repair strategies – apology versus denial – deployed by companies following accusations of wrongdoing. The story was based on the real-world controversy that struck Siemens

[1] This is not to suggest that all forms of CDA can or should be subject to experimental corroboration or that other means of triangulation are in any way invalid; only that where it lends itself, CDA benefits from experimental methods by adding a further chink in its armour.

AG in the early 2000s. The experiment found that denial works better in restoring trust than apology regardless of the strength of evidence supporting the accusation, though the effectiveness of the denial did decrease in the face of stronger evidence. Somewhat paradoxically then, the results of this experiment suggest that corporations, in the context of public accusations and in the short term at least, are better off pursuing defensive strategies than they are adopting a more honest and upfront approach.

In this paper, we use experimental methods to test the effects of trust-building strategies, realised in attitudinal and intersubjective stance-taking acts, which a previous corpus-based study found to be salient features of stakeholder-facing corporate communication (Fuoli 2017). We offer an experimental framework that relies on a between-subjects design in which a target group of subjects are exposed to trust-building strategies while another control group are not. The effects of exposure to discursive strategies are then measured by comparing the responses of subjects in both conditions to a second stimulus text. We apply this paradigm to corporate discourse in the form of an About Us webpage produced by a fictitious multinational pharmaceutical company that has been accused by a whistleblower of corporate misconduct. The scenario is based on the scandal that hit the French pharmaceutical company Sanofi in 2014. In line with the basic commitments of CDA, then, we proceed from (i) a real-world situation type which we consider to pose a significant social problem and (ii) attested discourse practices identified as characteristic of texts produced in that context.

## 2. Trust-building in corporate discourse

In order to be considered legitimate and secure continued access to the resources they need, business organizations must conform to societal norms, values and expectations (Suchman, 1995). Failure to do so may have detrimental consequences for companies, including adverse stakeholder reactions such as product boycotts, protests and lobbying, more stringent regulations, and diminished access to financial capital (Brown & Deegan, 1998; Frooman, 1999). These unfavourable circumstances may negatively affect a company's revenues and, ultimately, undermine its continued existence (Deegan, 2014; Dowling & Pfeffer, 1975). Therefore, although corporations are extremely powerful actors, they are at the same time vulnerable in so far as they depend on multiple stakeholders for crucial resources and, being subject to national and international law, they may be sanctioned for misconduct (Breeze, 2012).

A company's access to resources and freedom to operate are threatened when its behaviour is perceived as incompatible with society's norms and values (Deegan, 2002). In most cases, however, the actions of organizations and their members are seldom observable to non-members. Legal systems and institutions are therefore intended to operate as substitutes for personal control and direct monitoring (e.g. McKnight, Cummings, & Chervany, 1998; Shapiro, 1987; Zucker, 1986). Institutional regulation and monitoring, however, do not alone prevent corporate malpractice from occurring and corporations are routinely found to act in ways that fail to accord with public standards and expectations. A company's ability to continue operating is therefore, to a large extent, dependent on trust (Poppo & Schepker, 2010). In order to ensure that stakeholders continue to purchase their products and services, invest in their shares, and refrain from engaging in antagonistic behaviour, companies must convince them that they are trustworthy.

Research on trust has shown that there are three main aspects which individuals take into account when assessing others' trustworthiness: competence[2], benevolence and integrity (e.g. Gillespie & Dietz, 2009; Ingenhoff & Sommer, 2010; Mayer et al., 1995; Pirson & Malhotra, 2011; Poppo & Schepker, 2010; Xie & Peng, 2009). Competence is related to a person's or organization's skills and expertise in a given domain. Benevolence concerns their care for the trustor's interests, beyond egoistic considerations. Integrity has to do with how honest, fair, and sincere a person or organization is. Competence, benevolence and integrity are considered the fundamental building blocks of trustworthiness, which, in turn, is a critical antecedent of trust (Mayer et al., 1995). That is, the more competent, benevolent and integrous a person or organization is perceived as being, the more willing the trustor will be to engage in risk-taking behaviour that makes her- or himself vulnerable to their actions. Trustworthiness is therefore a strategic intangible asset for companies because it can positively influence individuals' attitudes to risk, e.g. the health and safety risks involved in purchasing and using a product. In addition, trustworthiness may help protect a company's reputation and legitimacy against accusations of malpractice. Sperber et al. (2010) argue that before accepting a message as true or sincere, audiences assess both the content of the message and the trustworthiness of its source. In Sperber et al.'s (2010) terms, audiences exercise 'epistemic vigilance'. In line with other research on trust, source-directed epistemic vigilance is targeted at the message producer's reputation for competence, benevolence and integrity. Accordingly, responses to accusations of misconduct will be more convincing and more likely to be accepted by audiences when they come from a company that has successfully managed to project an image of trustworthiness – that is, an image of itself as a competent, benevolent and integrous actor (see Hypothesis 2 below).

Given the relative unobservability of corporations' behaviour, stakeholders' impressions of a company are, in most cases, entirely mediated by discourse. Therefore, corporations have considerable potential to strategically influence individuals' perceptions through the selective disclosure of information and discursive constructions of identity. Based on this premise, a substantial body of research within CDA has examined the discursive strategies that companies use across a variety of texts and genres to build a trustworthy brand or image and thereby legitimise their practices (Bondi, 2016; Breeze, 2012; Brei & Böhm, 2014; Fuoli, 2012, 2017; Fuoli & Paradis, 2014; Hart, 2014; Koller, 2007, 2008, 2009b; Lischinsky, 2011; Lischinsky & Sjölander, 2014; Merkl-Davies & Koller, 2012; PAD Research Group, 2016; Skulstad, 2008). For example, in a case study of the online branding strategies used by the UK fruit juice producer Innocent, the PAD Research Group (2016) found that the company portrays itself as friendly, ethical, and caring. This strategy is pursued through both textual devices, such as personal pronouns and self-denigrating humour, and pictorial features, such as the image of a smiling worker and the use of primary colours. Image enhancing strategies have been observed even in texts that are mainly considered to have an informative function. For example, Lischinsky and Sjölander (2014) looked at corporate press releases and found evidence of companies' attempts to cultivate favourable environmental reputations. Specifically, they found expressions connected to sustainability, e.g. *energy efficiency* or *renewable*, to be substantially more frequent in titles, lead paragraphs and quotes – segments that are most likely to be reproduced verbatim by journalists in news articles (Lischinsky & Sjölander, 2014, p. 132).

A number of studies have identified stance resources, i.e. linguistic resources for the expression of attitudes, feelings and evaluations (Biber et al. 1999), as instrumental in discursive processes of corporate identity building, legitimation and trust repair. For example, Fuoli (2012)

[2] Some authors prefer the term 'ability' (e.g. (Mayer, Davis, & Schoorman, 1995).

shows how the oil and gas producer BP and the furniture maker Ikea use stance resources in their CSR reports to build a responsible corporate identity and address relevant legitimacy challenges. Hart (2014, pp. 47-59) analyses the legitimating functions of various forms of stance-taking act in the CSR reports of Coca Cola, Nike, and Nestlé and illustrates how these resources are used to demonstrate an alignment between the social values of the organisation and those of the wider public. Bondi (2016) focusses on markers of futurity in CSR reports and shows how modal verbs such as *will* and *want* as well as other markers function to foreground the company's attention and commitment to business ethics. Finally, Fuoli and Paradis (2014) examine the role of stance in the discursive process of trust repair following a corporate crisis. They argue that stance resources serve two fundamental discourse strategies which companies use to try to mitigate the negative effects of the crisis and restore trust among stakeholders. In the first, expressions of evaluation and affect are used to highlight the positive qualities of the company – an 'emphasize-the-positive' strategy – while in the second, resources for *dialogic engagement* (Martin & White 2005), such as epistemic modals, evidentials and markers of negation, are used to counter the discourses that generate distrust – a 'neutralize-the-negative' strategy.

These studies show that stance resources play a fundamental part in discursive processes of corporate identity construction, legitimation and ultimately trust attainment. Stance resources play a key role in managing trust because they realize two interpersonal functions that are central to the way trust works. Firstly, stance resources are directly implicated in how speakers construct their identity (e.g. Bednarek, 2015; Fairclough, 2003; Martin & White, 2005). They are therefore important to how speakers and writers communicate personal attributes that encourage trust, namely competence, benevolence and integrity. Secondly, stance resources are an important means of achieving alignment between individuals (Du Bois, 2007). As seen above, alignment, understood as a convergence of understandings, views and values, is an important prerequisite for trust.

In sum, previous work has shown that companies exploit a variety of linguistic as well as other semiotic resources in their public discourse in order to promote a positive corporate image based on an ideal, trustworthy Self. Since, as we discussed above, a perception of trustworthiness is a precondition of trust, this body of research provides useful insights into how corporations, through the texts they produce, seek to secure and manage the trust of target audiences. Previous studies, however, are limited in that the actual perlocutionary effects of such strategies, identified via qualitative or corpus-based analysis, are not empirically verified. In this study, we use experimental methods to test the persuasiveness of two particular trust-building strategies which a previous corpus-based study identified as a salient feature of public facing corporate communication (Fuoli, 2017). In the next section, we very briefly summarise the main findings from this corpus study as they relate to our experimental study, which we report in the subsequent section.

## 3. Corpus Study

Fuoli (2017) investigated the way stance-taking acts feature in annual and CSR reports to construct trustworthy corporate identities. The study was based on a 2.5 million word specialised corpus made up of 16 annual and 16 CSR reports published in 2012. The texts included were produced by multinational companies operating in four industry sectors: oil and gas, financial services, food processing and pharmaceuticals. The study focussed specifically on *grammatical stance*, i.e. instances where the stance expression takes scope over a proposition (Biber et al. 1999).[3] Analysis was restricted to grammatical stance because this is the most overt way of marking

[3] This is in contrast to *lexical stance* expressed, for example, in adjectives modifying nouns.

stance with the grammatical structures involved having explicitly this function (Biber, 2006). Accordingly, grammatical stance markers most directly reflect strategic attempts to frame the way that information provided in texts is received. They can also, therefore, be more reliably identified and quantified.

Following Biber et al. (1999), stance markers were divided into three types: attitudinal, epistemic and modals. The study revealed significant differences between annual and CSR reports, both in terms of the type of stance marker used and the particular trust-building strategies pursued. These contrasts show that annual and CSR reports are distinct genres which address the different concerns held by different stakeholder groups. In annual reports, which are directed mainly at employees, investors and other private stakeholders, companies were primarily concerned to highlight their competence, using epistemic modals *may* and *could* to show a prudent and responsible attitude toward forecasts or using the epistemic verb *believe* to assess company performance and foster optimism about the future:

(1) We believe that our portfolio of assets remains well positioned to compete and grow value in a range of external conditions and we continue to increase both investment and operating cash. (BP annual rep.)

By contrast, in CSR reports, which are intended for wider publics, companies pursued strategies apparently aimed at highlighting their benevolence and integrity. Strategies aimed at establishing benevolence were mainly realised in stance-taking acts involving epistemic verbs like *understand, know* and *realize* which specifically indicate an intersubjectively shared perspective. Strategies aimed at establishing integrity were mainly realised in attitudinal stance constructions and especially the [desire/intention/decision verb + *to*-clause] construction but also stance acts involving *believe* used to signal the company's moral values. These strategies are illustrated in the following examples:

**Benevolence**:

(2) We know that the research and development, manufacture and sale of our products can raise ethical issues. (GSK 2011 CSR rep.)

(3) We understand stakeholders are concerned about these risks [...]. These are important concerns, and we know we must respond to them in every community in which we operate. (ExxonMobil 2011 CSR rep.)

**Integrity**:

(4) We aim to be a good neighbour to the communities close to our projects and facilities. (Shell 2011 CSR rep.)

(5) We want to make our products available, accessible and affordable for as many of the people who need them as possible. (GSK 2011 CSR rep.)

(6) At Abbott, we believe that innovative, responsible and sustainable business plays an important role in building a healthy, thriving society. (Abbott 2011 CSR rep.)

Intersubjective stance-taking acts such as (2) and (3) serve to construct the company as benevolent by acknowledging the risks inherent in their business activities and presenting themselves as caring about, and sharing in, the concerns of others. Stance-taking acts such as (4)-(6) serve to construct the company as integrous by demonstrating a commitment to business ethics and thus convincing audiences that they can be trusted to operate in a way that meets moral expectations.

Now, whether strategies such as those exemplified in (1) – (6) actually succeed in constructing a trustworthy identity, by enhancing perceptions of the company as a benevolent and integrous organization, remains an open question. As with previous studies, Fuoli (2017) does not provide any empirical evidence for the effects of these strategies on individuals who are exposed to them. The trust-building functions of these stance-taking acts, then, can be considered at this stage only as hypotheses. In the section below, we report an experiment conducted to test whether or not these strategies are genuinely effective in leading to increased perceptions of benevolence and integrity, as is predicted by their analysis.

## 4. Main experiment

### 4.1 Hypotheses

In this experiment, we investigate the trust-building functions of two discursive strategies – aimed at highlighting a company's benevolence and integrity – which Fuoli's (2017) corpus-based study found to be salient features of CSR reports and which seem to reflect more general tendencies observed in previous studies of similar public-facing corporate texts. We predict that these two trust-building strategies will indeed enhance individuals' perceptions of a company's benevolence and integrity. Accordingly, our first hypothesis is formulated as follows.

H1a: Exposure to the trust-building strategies under investigation will positively influence perceptions of a company's benevolence.

H1b: Exposure to the trust-building strategies under investigation will positively influence perceptions of a company's integrity.

As discussed in Section 1, Sperber et al. (2010) postulate that the more trustworthy the source of a message is deemed, the more likely it is that epistemically vigilant audiences will accept the message as true or sincere. We test this hypothesis in a situation where a company denies accusations of wrongdoing. We predict that the more trustworthy the company is perceived to be, as a function of exposure to trust-building strategies, the more credible will the denial be judged as being. Our second hypothesis can thus be stated as follows.

H2a: Perceived benevolence will positively influence the perceived credibility of a company's denial of wrongdoing.

H2b: Perceived integrity will positively influence the perceived credibility of a company's denial of wrongdoing.

Hypothesis 2 also implies that, if Hypothesis 1 is correct, the trust-building strategies will have an indirect positive effect on the perceived credibility of the company's denial. That is, by enhancing perceptions of the company's trustworthiness, trust-building strategies will at the same time increase the likelihood that a denial of wrongdoing is accepted as sincere.

Readers rely on multiple cues in evaluating the content of an utterance and the trustworthiness of its speaker. In situations where a company has been accused of wrongdoing, one factor that has been shown to significantly influence individuals' reactions to the company's response is the strength of evidence on which the accusation is based (Fuoli et al. 2017). Here, the stronger the evidence against the company, the more negative people's assessment of its response. We therefore predict that evidence of the company's guilt will negatively affect both impressions of the company's trustworthiness and the perceived credibility of its denial. Our third hypothesis is thus formulated as follows:

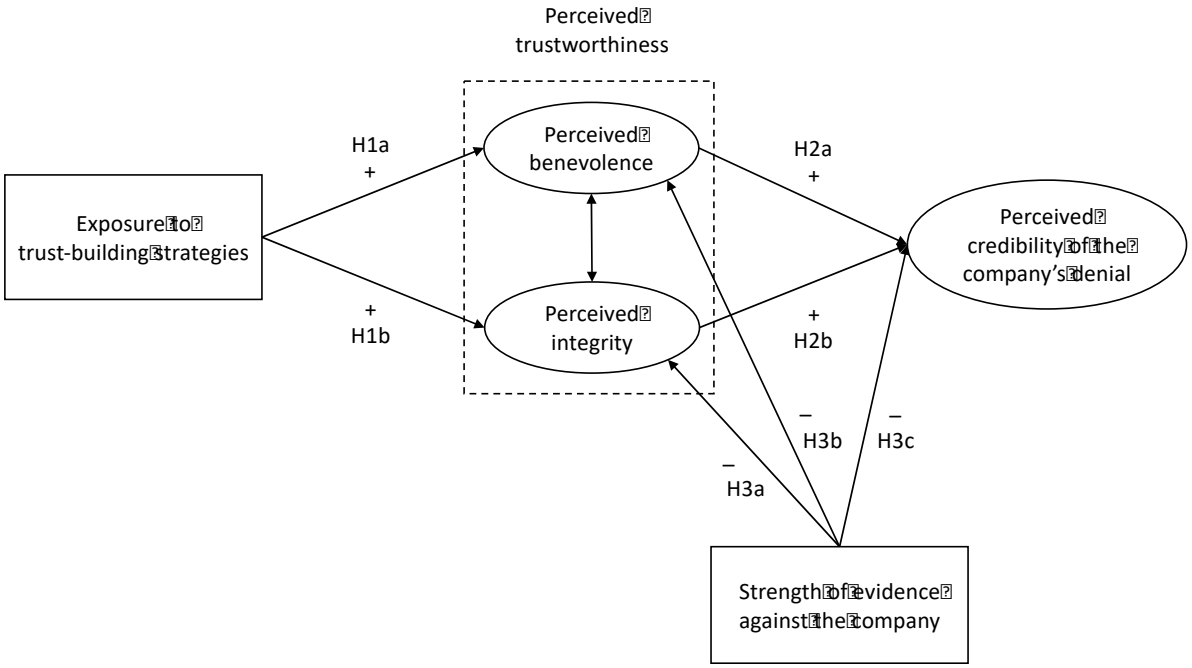
H3a: Evidence of a company's guilt will negatively affect perceptions of its benevolence.

H3b: Evidence of a company's guilt will negatively affect perceptions of its integrity.

H3c: Evidence of a company's guilt will negatively affect the perceived credibility of its denial in response to accusations of wrongdoing.

The causal relationships between the experimental variables described across our hypotheses are represented schematically in Figure 1. The arrows indicate a causal effect between the variables and the sign indicates whether the effect is positive, i.e. leading to increased values, or negative, i.e. leading to reduced values.

Figure 1. Theoretical model summarizing the hypothesized causal relations between experimental variables




**4.1.1 Control variables**

Previous empirical research has shown that, while texts do exert an influence on people's attitudes, opinions, decisions etc., political orientation is also a significant predictor (Hart, 2016; Thibodeau & Boroditsky, 2011). In contexts of corporate communication, it has similarly been shown that distrust of corporations in general negatively affects perceptions of individual organizations and their practices (Fuoli, Weijer, & Paradis, 2017). To control for these potential confounds, political affiliation and generalised distrust of pharmaceutical companies were additional factors included in our model.

### 4.2 Method

#### 4.2.1 Participants

Participants were recruited from staff and student populations at several universities in Sweden and the UK. A total of 297 subjects participated in the study. Sixty-three percent of the sample was female, 35% male and 1% unspecified. The participants' age ranged from 18 to 71 (mean = 25.01, SD = 8.58). The majority of respondents identified as students (87%), with 10% identifying as university staff. Three percent gave their occupation as 'other'. Thirty-eight percent of the subjects were of Swedish nationality, 30% of British nationality, and the remaining 32% represented other nationalities. Thirty-eight percent of the participants were native speakers of English. The mean self-reported ability to understand English among the non-native speakers, on a scale ranging from "poor" (1) to "excellent" (10), was 8.86 (SD = 1.05).

#### 4.2.2 Materials and design

The experiment followed a 2x2 between-subjects design with exposure to the trust-building strategies (exposure vs. no exposure) and strength of evidence against the company (strong vs. weak) as factors. Participants were auto-randomly assigned to one of the four experimental conditions.

All participants read a fabricated newspaper article (see Appendix A) reporting a whistle-blower lawsuit brought against a fictitious multinational pharmaceutical company (Avita). The article reports that a former Avita employee has accused several company executives of having been actively involved in a scheme to bribe doctors and hospitals to prescribe their products over cheaper alternatives. The article claims that the whistle-blower was dismissed in retaliation for exposing the scheme. The article further reports a statement from Avita strongly denying the accusation which, it claims, is without foundation and in fact motivated by the former employee's frustration at having been dismissed for other reasons. The scenario is based on a real-world case involving French pharmaceutical company Sanofi (Mangan 2014, 2015).

The news article was presented in one of two conditions: strong versus weak evidence of the alleged misconduct. Strength of evidence was manipulated in the final paragraph of the article citing the opinion of a legal expert who suggests that the whistle-blower's case is unsubstantiated by hard evidence (weak evidence) or who refers to emails from top Avita executives as direct evidence of misconduct (strong evidence). With the exception of the evidence manipulation, the article was identical across conditions.

In order to maintain ecological validity, and thereby enhance the relevance of the results from a CDA perspective, the article was presented in the format of a genuine online news report with the textual material adapted from two attested news articles reporting the real-world case of Sanofi.[4] This particular case was chosen because the accusations levelled at the company cast doubt on both its benevolence and integrity, the two dimensions of trustworthiness targeted in this study. In the 'near-authentic' stimulus text, then, the company's benevolence is called into question where the accusation implies that they put their own interests, i.e. maximizing profits, ahead of the interests of patients, i.e. having access to affordable medication. The article also casts doubt over the company's integrity by suggesting that they deliberately broke the law and, more generally, contravened widely accepted ethical norms.

[4] An imagined company name was used in the stimulus text in order to avoid interference from pre-existing knowledge of or attitudes toward a particular real-world corporation.

To test the effects of exposure to trust-building strategies, prior to presentation of the news article, half of all participants read an About Us page which they were told came from Avita's website (see Appendix A). Again, in order to maintain ecological validity, the About Us page mimicked the style and format of a genuine About Us page, modelled on the About Us page of British pharmaceutical company GlaxoSmithKline (GSK).[5] From a CDA perspective, it is important to maintain as much ecological validity as possible in order that experimental findings can be generalised to real-world contexts. About Us pages, like CSR reports, are public-facing texts which prioritize benevolence and integrity (over competence) in efforts to construct a trustworthy corporate identity. Characteristic of company About Us pages in general (Koller, 2009a), as well as the About Us page of GSK, the text presents Avita's mission, with an emphasis on the core visions and values which underpin their business. The text contained two primary discursive strategies which, based on Fuoli (2017) and discussed in Section 3, we hypothesize serve trust-building functions: (i) expressions of beliefs, intentions and desires which display a commitment to business ethics and therefore project integrity; and (ii) expressions of shared perspective which suggest a receptive and empathetic attitude and thus project benevolence. These two strategies appeared in the second and final paragraphs of the About Us page and are reproduced below. The initial paragraph addressed issues of competence rather than benevolence and integrity.[6]

> We <u>believe</u> business should play a greater role in meeting social, economic and environmental challenges.
>
> We <u>want</u> to make our products available, accessible and affordable for as many of the people who need them as possible.
>
> We <u>understand and recognise</u> the many barriers and obstacles there are on the path to better health and we are <u>committed</u> to finding new and innovative ways of overcoming them.

**4.2.3 Procedure**

The experiment took the form of an online-embedded survey. Upon entering the experiment, participants were told that they would see a news story about a large multinational corporation before being asked a series of follow-up questions about the text. Participants assigned to the exposure to trust-building strategies condition were additionally told that they would see an About Us page from the same company before the news story.

Participants were instructed to read the text(s) carefully before progressing through the experiment. They were also told not to use the "back" button on their web-browser as this would terminate the session. This was to ensure that participants did not re-read the stimulus text(s) in light of the follow-up questions or in order to pass the manipulation check.

Once participants confirmed that they had read the instructions and were ready to proceed, the stimulus texts were presented. Both the About Us page and the news article were displayed for a minimum of 25 seconds before participants were able to move on. This was to encourage participants to fully engage with the texts. To further ensure the quality of responses, two manipulation checks were included which aimed to verify that participants had read the news

[5] Who have similarly been embroiled in cases of bribery, being found guilty of paying medics to prescribe unauthorised drugs (e.g., Neville, 2012).

[6] We decided not to limit the text to the target strategies only in order to preserve ecological validity; About Us pages are typically longer and more complex than just two or three sentences.

articles carefully and that they were influenced by them in the expected ways, i.e. that they perceived evidence to be strong in the strong evidence condition and to be weak in the weak evidence condition, and that they correctly recognized the company's response to the accusations. The items, which the participants were instructed to rate on a 7-point Likert scale with endpoints ranging from "strongly disagree" (1) to "strongly agree" (7), were "The evidence against Avita is very strong" and "Avita has admitted to paying illegal kickbacks to hospitals, doctors and pharmacies". Following the manipulation checks, dependent variables were measured using a questionnaire which was identical across all four conditions (see Measures). After completing the questionnaire, participants were asked to provide demographic information, including age, language abilities, political affiliation and general level of trust in pharmaceutical companies. Finally, participants were debriefed, thanked for their participation and invited to enter a draw for an incentive prize.

#### 4.2.4 Measures

Dependent variables were measured using several multi-item scales adapted from previous studies on organizational trust and interpersonal trust repair. Perceived benevolence was measured using four items adapted from Mayer and Davis (1999). Perceived integrity was assessed with four items adapted from Mayer and Davis (1999).[7] Participants responded to these items on 7-point Likert scales with endpoints ranging from "strongly disagree" (1) to "strongly agree" (7). Credibility of the company's denial was measured using four 7-point semantic differential scales adapted from the 'believability of the information scale' developed by Gürhan-Canli and Maheswaran (2000).

For the control variables, generalised distrust of pharmaceutical corporations was measured using four items derived from the 'corporate distrust' scale developed by Adams, Highhouse, and Zickar (2010) while political orientation was measured using a single 7-point semantic differential scale taken from Kehn and Ruthig (2013), with the endpoints labelled "liberal" (1) and "conservative" (7). The scales and items used are fully detailed in Appendix B.

#### 4.2.5 Data analysis

To analyse the results of the experiment and test the hypotheses presented above, we employed a statistical technique called Structural Equation Modelling (SEM), which is widely used in the behavioural and social sciences (for an overview see Hair et al. 2014: Chapter 11). SEM is a theory-driven method of statistical analysis that enables researchers to examine the relationships between multiple factors simultaneously. The relationships are typically represented in a path diagram such as the one given in Figure 1. By convention, single-headed arrows represent the effect of one factor on another. Double-headed arrows represent correlations between pairs of variables (Byrne, 2010, pp. 9-11).

SEM was favoured for two main reasons. First, it allows for complex causal relationships involving multiple factors to be estimated. Any variable in a SEM model may simultaneously act as an independent and as a dependent variable. That is, each factor can both have an effect on, and be affected by, other factors in the model. In our model, for example, it is hypothesized that perceived integrity will be influenced by trust-building strategies and, at the same time, have a positive effect

[7] In some cases, only those items from the original scale which best fit our dependent variables were used resulting in a smaller number of items. The wording of the items was also modified so as to relate to pharmaceutical companies in particular. This change was aimed at making the items more specific, more relevant to the experimental scenario, and thus easier for participants to assess.

on the credibility of the company's denial. SEM enables us to evaluate causal chains of this kind, while simultaneously controlling for the effect of other relevant factors. Second, SEM can handle both variables that can be directly measured, such as age or nationality, and factors that can only be accessed indirectly. In a SEM analysis, the latter are referred to as *latent factors*. In our model, perceived benevolence and integrity are latent factors, manifested in participants' scores on the corresponding questionnaire items where the latent factor is assumed to be the cause of the item scores. That is, the score obtained on the item is presumed to be a function of the strength or quantity of the latent variable (DeVellis, 2012, p. 19). Latent factors are normally shown as ovals in path diagrams, whereas observed or experimentally manipulated variables are represented by rectangles.

Following well-established practice, we performed the analysis in two stages (Anderson & Gerbing, 1988; Hair et al., 2014). First, we examined the validity of the measurement model, which specifies the relations between the observed measures, i.e. the scores on the questionnaire, and the latent factors they are intended to reflect (Byrne, 2010, p. 12). This was done by means of *a confirmatory factor analysis*. Establishing the validity of the measurement model is a necessary first step since, as Hair et al. (2014: 600) put it, "[n]o valid conclusions exist without valid measurement". In other words, we can only be confident that any causal relations between factors exist, as hypothesized, if we can show that those factors have been correctly operationalized and measured. The second stage in the analysis consisted in assessing the full structural model, which specifies the causal relations between the factors based on some pre-specified theory (Anderson & Gerbing, 1988, p. 411). In our case, the theory that was tested is the whole system of variables and their interconnections as represented in Figure 1. This stage is thus the hypothesis testing phase of the experiment proper and itself involves two steps. First, the model's *goodness of fit* with the response data is assessed. If the results show that the model is consistent with the data, then the plausibility of the general model is born out so that the individual hypotheses made within it may be examined (Byrne 2010: 3). Subsequently, then, the causal links between individual factors in the model are assessed in order to determine the extent to which they affect one another and thus test our specific hypotheses.

Analyses were performed using the statistical software package AMOS[8] (Arbuckle, 2014), following the procedure outlined in Byrne (2010). For reasons of space, a detailed account of the analysis procedure and full details of the results are given in Appendix C. Main findings are summarized in Section 4.3.2.

#### 4.2.6 Pilot study

Prior to the main experiment, a pilot study was conducted in order to: (i) verify the effectiveness and ecological validity of the stimuli; (ii) test the reliability and validity of the scales used and gather information for refining and optimizing them; and (iii) ensure that the instructions and questions were clear and that the online survey platform used functioned properly.

Forty-four subjects participated in the pilot study. Sixty-four percent of them were female and the mean age was 41.50 ($SD$ = 11.48). The results of the pilot experiment indicated that the experimental manipulations were successful. Participants in the strong evidence condition rated the evidence of Avita's guilt as significantly stronger than those in the weak evidence condition ($t$ = 4.81, $df$ = 30.28, $p$ < .001). Overall, participants correctly identified the company's response to the

[8] The analysis can also be done using R, e.g. with the package 'lavaan', and other programs such as LISREL or MPlus.

accusations; the mean agreement score for the item "Avita has admitted to paying illegal kickbacks to hospitals, doctors and pharmacies" was 1.73 (*SD* = 1.48), significantly below the neutral midpoint value of 4 ($t$ = -10.16, $df$ = 43, $p$ < .001). Overall, the participants judged both the newspaper article and the About Us page to be realistic. The mean realism scores were 5.36 (*SD* = 1.43) for the former and 6.00 for the latter (*SD* = 0.63). Both scores were significantly greater than the neutral midpoint value of 4 (news text: $t$ = 6.32, $df$ = 43, $p$ < .001; About Us page: $t$ = 14.49, $df$ = 20, $p$ < .001). In light of these positive results, the stimuli were left unchanged.

The results of the pilot study also confirmed that the scales used were reliable. The Cronbach's alpha coefficient for all the scales used exceeded the value of .80, which is generally taken to indicate high levels of reliability (DeVellis, 2012, p. 109). In fact, all but one of the scales, namely the 'generalised distrust of pharmaceutical corporations' scale, yielded an alpha score greater than .90, suggesting that they could be shortened without compromising their reliability (DeVellis, 2012, p. 109). Since shorter questionnaires normally facilitate more reliable answers (Brace, 2008), we therefore decided to remove one item from the three scales whose alpha coefficient exceeded .90. We removed the item from each scale with the lowest factor-loading calculated through exploratory factor analysis. The items that were removed were Item 4 from the 'perceived benevolence' scale, Item 3 from the 'perceived integrity' scale and Item 1 from the 'perceived credibility of the company's denial' scale (see Appendix B). The 'generalised distrust of pharmaceutical corporations' scale was left unchanged.

The pilot study also highlighted a number of minor issues with the online survey system and with the wording of some of the demographic questions, which were solved before launching the main experiment.

### 4.3 Results

#### 4.3.1 Manipulation checks

The results of the manipulation checks revealed that the experimental manipulations were successful. In line with expectations, participants in the strong evidence condition rated evidence against Avita as significantly stronger than participants in the weak evidence condition ($t$ = 13.56, $df$ = 284.67, $p$ < .001). The mean agreement score for the statement "Avita has admitted to paying illegal kickbacks to hospitals, doctors and pharmacies" was 2.03 (*SD* = 1.47), significantly below the neutral midpoint value of 4 ($t$ = -22.98, $df$ = 296, $p$ < .001). This result indicates that, overall, the participants correctly identified the company's response to the allegations.

#### 4.3.2 Test of Hypotheses

As discussed above, the analysis of the results involved two stages. First, the validity of the measurement model was assessed. Second, the overall fit of the full structural model was evaluated and the specific hypotheses tested. A detailed account of the analysis procedure and results, including descriptive statistics, is given in Appendix C. This section summarizes the key findings.

Results from the confirmatory factor analysis, which are reported in Appendix C, indicate that the four latent factors considered (benevolence, integrity, credibility of the company's denial and generalised distrust of pharmaceutical companies) were appropriately operationalized and measured. After validating the measurement model, the full structural model was tested. As shown in Table 1, Goodness of fit scores for the model indicate a good overall fit according to

recommended benchmarks. The results thus confirm that the hypothesized model, as depicted in Figure 1, is a plausible explanation for the response data received.

Table 1. Goodness-of-fit indices: Full structural model

| Goodness-of-fit index | Recommended cut-off value | Observed score |
|---|---|---|
| Chi-square/*df* | < 3 | 1.23 |
| *p* value for the model | > .05 | .41 |
| Comparative Fit Index (CFI) | > .95 | .99 |
| Goodness-of-Fit Index (GFI) | > .95 | .95 |
| Adjusted Goodness-of-Fit Index (AGFI) | > .90 | .93 |
| Root Mean Square Error of Approximation (RMSEA) | < .06 | .03 |

Having determined the overall fit of the model to the data, we proceeded to test the individual hypotheses. The results of the hypothesis tests are reported in the path diagram in Figure 2. The coefficients displayed next to each path indicate the positive versus negative effect of one factor on another and the magnitude of that effect. Effects with an associated *p* value equal to or lower than .05 were considered statistically significant.

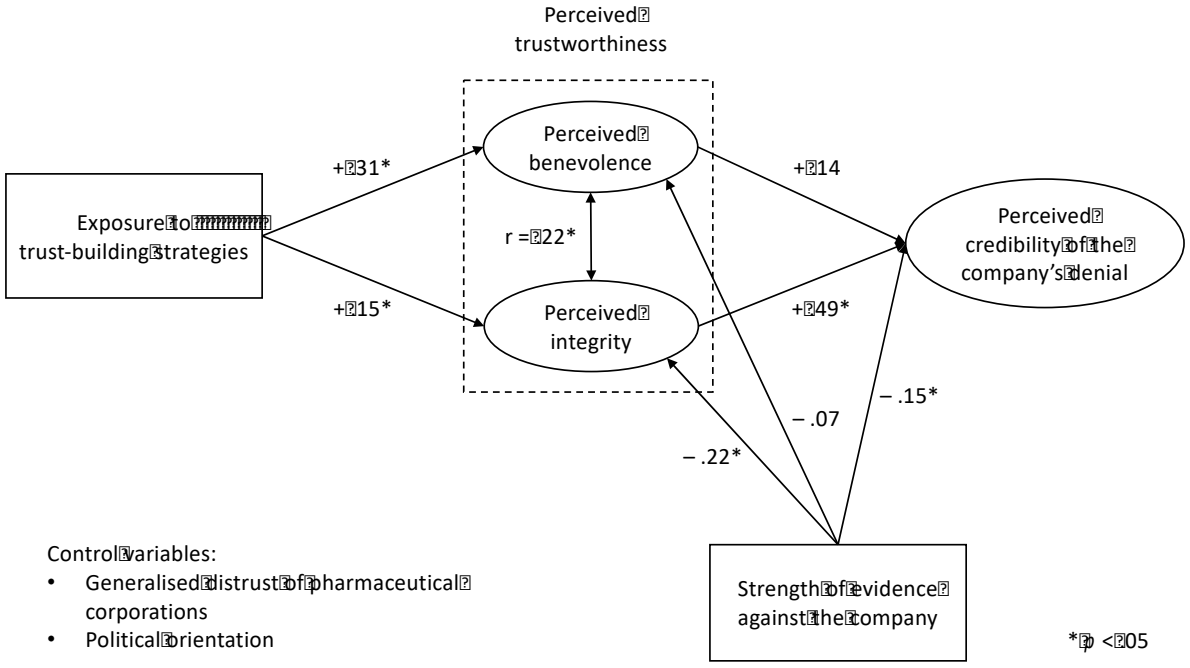



Figure 2. Graphical representation of the results for the full structural model

Hypothesis 1a predicted that exposure to trust-building strategies would positively influence perceptions of the company's benevolence. The results of the analysis show that the strategies did indeed have a significant positive effect on perceived benevolence ($\beta$ = .31, $p$ = .001). Hypothesis 1a is therefore supported. Hypothesis 1b stated that the trust-building strategies would similarly enhance perceptions of the company's integrity. The results show a significant positive effect on perceived integrity ($\beta$ = .15, $p$ = .018). Accordingly, Hypothesis 1b is also confirmed.

Hypothesis 2a postulated that perceived benevolence would, in turn, positively influence credibility judgements of the company's denial. The effect of benevolence on perceived credibility of the denial was positive but not statistically significant ($\beta$ = .14, $p$ = .101). Therefore, hypothesis 2a was not supported by the data. Hypothesis 2b predicted that perceived integrity would positively influence the credibility of the company's denial. The results indicate that integrity had a strong and highly significant positive effect on credibility ($\beta$ = .49, $p$ = .001). Hypothesis 2b is therefore upheld.

Hypothesis 3a suggested that evidence of the company's guilt would negatively affect perceptions of its benevolence. This hypothesis is rejected; evidence of the company's guilt had a minor and nonsignificant effect on perceived benevolence ($\beta$ = -.07, $p$ = .244). Hypothesis 3b predicted that evidence of the company's guilt would likewise negatively affect perceptions of the company's integrity. The results confirm this hypothesis; evidence of the company's guilt had a significant negative effect on perceived integrity ($\beta$ = -.22, $p$ = .001). Similarly, hypothesis 3c proposed that the credibility of the company's denial would be negatively affected by evidence of the company's guilt. The results show that evidence of the company's guilt did have a significant negative effect on credibility judgements ($\beta$ = -.15, $p$ = .006). Hypothesis 3c is therefore confirmed.

As discussed in Section 4.1.1, the model also included two control variables: generalised distrust of pharmaceutical corporations and political orientation. The results of the analysis reveal that the former factor significantly and negatively influenced perceived benevolence ($\beta$ = -.21, $p$ = .001), perceived integrity ($\beta$ = -.19, $p$ = .003) and perceived credibility of the company's denial ($\beta$ = -.19, $p$ = .002). Political orientation had a significant effect only on perceived benevolence, such that the more conservative the political orientation of the participant, the more benevolent the company was perceived as being ($\beta$ = .17, p = .005). The two control variables were significantly correlated with each other ($r$ = -.22, $p$ = .001).

**4.4 Discussion**

In this study, we used experimental methods to test the trust-building effects of discursive strategies, realised in attitudinal and intersubjective stance-taking acts, which have previously been identified as salient features of externally-oriented corporate texts. The results show that discursive strategies analysed as serving a trust-building function are indeed effective in fostering trust. Notably, one single exposure to these strategies contained within an About Us page had a significant effect on perceptions of the company's benevolence and integrity. This effect occurred despite the fact that subsequent allegations directly contradicted claims made in the About Us page. Overall, then, our findings suggest that by presenting themselves as caring and sympathetic to the concerns of others and by demonstrating a commitment to business ethics, corporations are able to positively manage the impressions that people form of them. The results further indicate that the two trust-building strategies have an indirect positive effect on credibility assessments when it comes to a company's denial of wrongdoing. In line with predictions emerging from Sperber et al.'s (2010) model of epistemic vigilance, then, the results show that individuals' willingness to accept an incoming message as true or sincere correlates with their level of trust in the speaker. By improving

impressions of the company's trustworthiness, trust-building strategies simultaneously create the conditions for readers to relax their vigilance and be more accepting of incoming messages, in this case a denial of wrongdoing. The trust-building strategies tested here, therefore, may not only help companies to gain the trust of stakeholders, but also to mitigate blame and protect their legitimacy against accusations of malpractice.

One caveat to this conclusion is that only perceived integrity had a significant impact on credibility judgements of the company's denial. One possible explanation as to why benevolence did not also have a significant effect might be that, contrary to our expectations (see Section 4.2.2), the allegations against Avita primarily called into question its integrity more than its benevolence. In other words, the fact that Avita had allegedly broken the law may have been perceived as more salient in this scenario than the fact that the company might not truly care about the interests of patients. Accordingly, information concerning the company's integrity might have been given comparatively more weight in assessing the credibility of its denial. Another, and not necessarily competing, explanation is that sincerity and veracity are generally a matter of integrity more than they are benevolence. That is, when we assess whether our interlocutor is telling the truth, we are mainly drawing on impressions of and information about their integrity rather than their benevolence. Clearly, this hypothesis requires empirical testing. It does, however, hold potentially important implications not only for our general understanding of the discursive dynamics of trust, but for the concept of epistemic vigilance in particular. Our findings seem to indicate that integrity is, out of the three core facets of trustworthiness, the one that matters most when gauging the sincerity or veracity of a message.

While the trust-building strategies did show a significant effect on participants' impressions of the company's trustworthiness, it is important to note that they were not the sole source of influence. Evidence of guilt was also found to play an important role by negatively affecting all aspects of trust except for benevolence. In line with Chilton (2005), this result shows that readers do not naively accept the content of texts, but draw on multiple aspects of the communicative situation when interpreting and evaluating them. It is therefore paramount to take relevant aspects of context into account when measuring readers' responses. As with exposure to the trust-building strategies, evidence against the company did not have a significant effect on benevolence. We believe that these results lend themselves to a similar analysis. Evidence of the company's guilt was possibly taken as diagnostic of a lack of moral integrity but not a lack of benevolence. Put differently, evidence against Avita might have been taken to imply that the company was lying about their innocence, which is incompatible with being integrous but not necessarily a sign of lack of care for stakeholders.

The fact that all of the effects discussed above were obtained while controlling for individual variation in generalised distrust of pharmaceutical companies and political orientation indicates that the findings are robust; the observed trends are not a function of these potentially confounding factors but are due to the influence of the text. Both control variables, however, were significant independent influences for at least some of the other factors, which shows that they do play an important part in moderating individuals' reactions to corporate texts. The finding that distrust of pharmaceutical corporations in general had a negative effect on all the other aspects of trust replicates previous results (Fuoli et al. 2017) and lends additional support to the idea that stereotypes are important cognitive cues on which individuals rely when assessing others in situations of limited knowledge or histories of interaction (McKnight et al. 1998). Overall, these results emphasise the need to take individual variation into account when measuring audience responses to texts and caution against treating readers as an homogenous, undifferentiated group.

In line with previous work on corporate discourse (see Section 2), the results show that stance plays a central role in companies' discursive efforts to promote a positive, trustworthy corporate image. This study builds on earlier studies by showing that stance-taking acts are not just a pervasive feature of corporate texts, but that they genuinely affect people's beliefs and attitudes towards a given company.

The results of the experiment showed that participants who read the About Us page exhibited significantly higher levels of trust in Avita compared to those who did not see the text. As discussed above, this finding seems to lend support to hypothesis 1, which predicted that the trust-building strategies contained within the About Us page would enhance perceptions of the company's trustworthiness. Of course, the strategies under investigation were embedded in a longer, multimodal text. It is not possible to isolate these strategies from their usual co-textual environment without compromising ecological validity and therefore undermining the real-world significance of the study. As a result, we cannot be absolutely sure that the effect found is not due to some other feature(s) contained within the text. Importantly, however, there is no theory to support such an analysis. By contrast, there is considerable qualitative evidence to suggest that the effect is due primarily to the discursive strategies in focus. One possible alternative explanation, though, comes from a well-established psychological phenomenon known as the *mere exposure effect* (MSE). MSE refers to a tendency for individuals to respond more positively to stimuli that they have previously encountered (e.g. Bornstein 1989; Zajonc 1968, 2001). Thus, rather than attesting to the persuasiveness of the discourse strategies under investigation, the higher trust values observed in the treatment group might be due to the fact that participants in this group were familiar with the accused company's name, having already been introduced to it in the About Us page, while participants in the control group were not presented with any text before reading the news article and hence were free from such an effect. To test this alternative hypothesis, a follow-up study was conducted. This experiment is described in the next section.

## 5. Follow-up experiment: The effects of mere exposure

To test whether the higher trust values observed in the treatment group are indeed attributable to the persuasiveness of the discourse strategies under investigation, a follow-up experiment was conducted in which the About Us page was replaced by a more stance-neutral text in the form of a fabricated Wikipedia article about Avita. The design of the experiment was otherwise similar to that of the main experiment. Participants were randomly assigned to one of two groups. One group was asked to read the Wikipedia page before reading a news article reporting accusations of misconduct against Avita while the other group saw only the news article. The news article was the same as in the main experiment except that, since the main aim of the follow-up study was to test the effect of familiarity with the company on perceptions of trustworthiness, no evidence manipulation was included. Both groups read the weak evidence version of the article. As before, the experiment was conducted online.

A Wikipedia article was used because it belongs to a genre whose ostensive function is to convey objective, unbiased information. The page mimicked the style and format of a genuine Wikipedia page. The text of the article was adapted from the Wikipedia pages of GlaxoSmithKline and Sanofi (see Appendix A). Participants were presented with the first two paragraphs of the introduction section of the article, which contained general information about the company. The text was purely descriptive and contained no explicitly evaluative language. No information about past negative events, such as corporate scandals or controversies involving the company, was included in order to avoid inducing any negative bias.

Sixty-nine subjects participated in the follow-up study.[9] They were recruited through Amazon's Mechanical Turk and received $0.50 for their participation. Forty-five percent of the participants were female and the mean age was 35.22 (*SD* = 9.53).

Descriptive statistics for the follow-up experiment are given in Appendix D. Multiple regression analysis was used to examine the data and test for the presence of MSE. Three separate regression models were fitted, one to each of the dependent variables (i.e. benevolence, integrity, and credibility of the company's denial). Contrast coding (Cohen, Cohen, West, & Aiken, 2013) was used for the predictor 'exposure to Avita's Wikipedia article' (-0.5 for 'no exposure' and +0.5 for 'exposure'). As in the main experiment, generalised distrust of pharmaceutical corporations and political orientation were treated as control variables.

The results of the analysis reveal that exposure to Avita's Wikipedia article had no significant effect on any of the dependent variables (benevolence: $R^2 = 0.447$, $\beta = 0.133$, $p = 0.564$; integrity: $R^2 = 0.342$, $\beta = 0.033$, $p = 0.899$; credibility of the company's denial: $R^2 = 0.364$, $\beta = 0.336$, $p = 0.199$). Based on these results, we may reject the alternative hypothesis that the mere exposure effect, rather than exposure to trust-building strategies in particular, lead to increased trust in Avita in the main experiment. The findings of the follow-up study thus lend additional support to our first hypothesis.

## 6. General discussion and conclusion

This experimental study has shown that discursive strategies previously identified as a salient feature of public-facing corporate communication and analysed as performing a trust-building function do indeed enhance perceptions of a company's trustworthiness. The study therefore has important implications both for research on corporate discourse in particular and Critical Discourse Analysis more generally.

Empirically, the results demonstrate that the discursive strategies under investigation are not only effective in attaining trust but that, in doing so, they are also able to mitigate the potential damage caused by public accusations of wrongdoing. In this way, trust is a valuable resource which companies can 'stockpile' to insure against future threats to their legitimacy and freedom to operate, as when their behaviour violates, or is said to violate, societal norms and values. This finding raises critical questions concerning the motives of companies in producing such public-facing texts and clearly suggests the need for public stakeholders to be critically aware of the power that these texts have to shape our perceptions of a company's trustworthiness and thus, more generally, the role that such texts play in constructing and maintaining relationships between business organisations and society as a whole. That the discursive strategies tested here seem to reflect a more general practice observed in previous discourse-analytical studies of corporate communication makes these findings especially pertinent.

Theoretically, the results provide insights into the psychological mechanisms of trust-building and reader response. The results show not only that trust-building strategies in discourse succeed in enhancing perceptions of trustworthiness; they also shed crucial light on how this form of textual influence occurs, illuminating the specific psychological constructs involved as well as the dimensions of context that readers attend to when assigning trust. The fact that evidence against the company significantly affected reader judgements underscores the need to take contextual

[9] Fewer participants were required because the experiment contained fewer conditions. The number of participants exceeds the recommended minimum of thirty per condition.

factors into account when measuring reader response. In other words, in line with the emphasis that CDA places on the role of context in shaping communication and the way that texts are received (Blommaert 2005; van Dijk 2008; Flowerdew 2014; Widdowson 2004), the study highlights the need for experimental research in CDA to avoid naïve or simplistic accounts of textual influence and instead offer more nuanced models which identify the various factors at play. This includes individual factors such as political orientation and generalised distrust in corporations. The fact that these control variables were also found to be significant in our study shows that individual differences must be taken into account in order not to fall into the trap of making overly deterministic claims which treat readers as a single homogenous group. Perhaps more tangentially, our findings also provide support for Sperber et al.'s model of epistemic vigilance which, to our knowledge, has not previously been empirically tested. Here, the indirect effect of the trust-building strategies on the perceived credibility of the company's denial is interpreted as evidence for source-directed epistemic vigilance, which is lowered in conditions of established trust. Of course, the present study has targeted the link between stance-taking acts in discourse and the latent psychological factors they appeal to in order to foster trust. It has not shed light on, and has not set out to investigate, other potential affective responses to stance expressions (cf. Bednarek 2009). Neither does our study say anything about the actual comprehension of stance expressions – the cognitive processes apprehended or the format of the mental representations involved (cf. Bullo 2014). Although we have made a point of factoring in individual variation in the guise of political orientation and generalised distrust in pharmaceutical companies, our model does not take into account the vast reservoirs of personal and socially shared knowledge and experience which is likely to impact on how stance-expressions are received. These are all important factors which must be addressed if we are to build a comprehensive model of discourse processing for any given linguistic feature. Their investigation, however, lies beyond the purview of the current paper.

Finally, methodologically, the study contributes to the practice of CDA. As part of a growing body of work using experimental methods in CDA (Fuoli et al. 2017; Hart 2016b, 2017; Subtirelu & Gopavaram 2016), the study further demonstrates that experimental methods can usefully complement more traditional discourse-analytical methods as a form of triangulation. Experimental methods allow researchers to test hypotheses concerning the ideological or persuasive functions of particular discourse features by obtaining independent empirical data for how people respond to texts. In this paper, we offer one particular paradigm for conducting experimental research in CDA. It is hoped that this will be taken up and applied in other discursive contexts of concern in CDA but also that further new paradigms will be developed in response.

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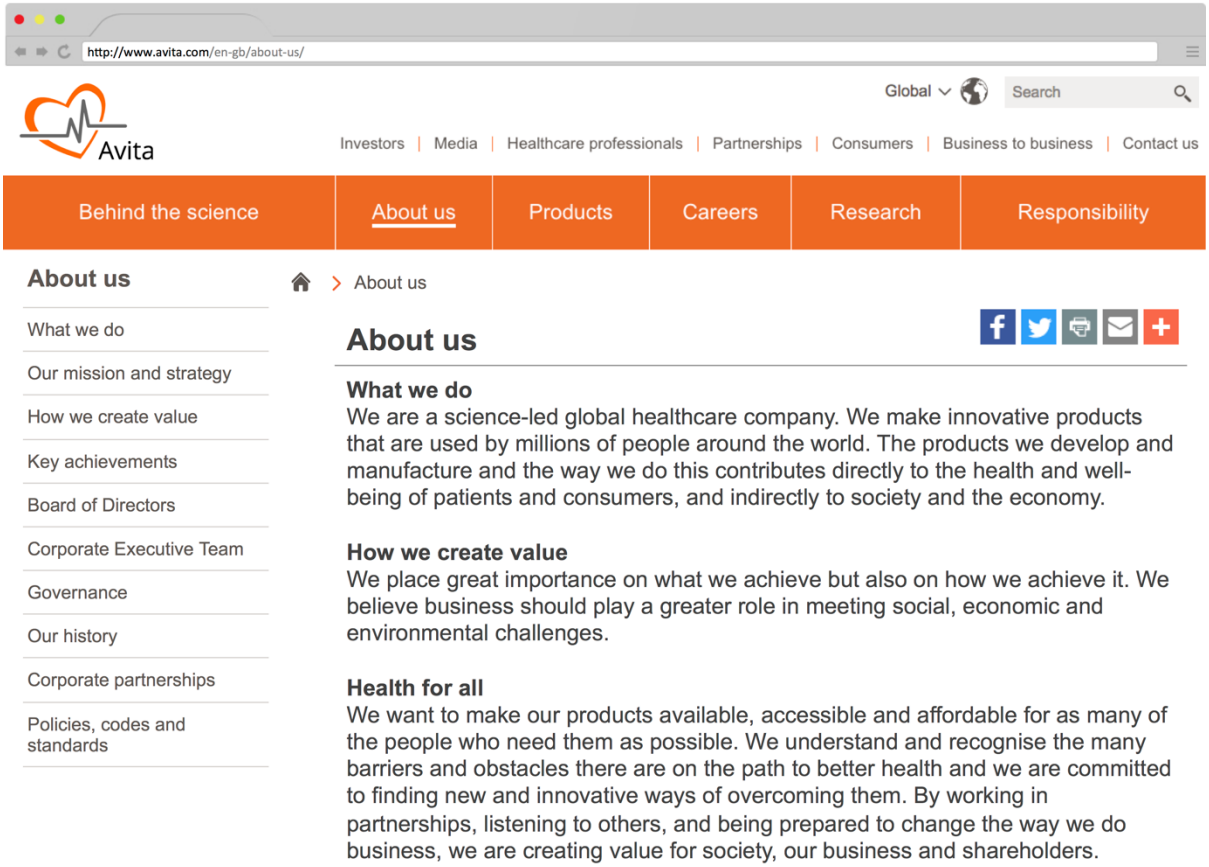
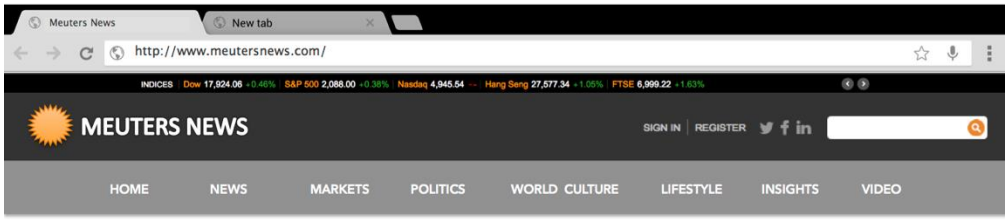
**Appendix A: Stimulus texts (About Us page, news texts, Wikipedia page)**

*About Us page*



*News text: strong evidence version*




**BREAKING NEWS** | Tue, Nov 22, 2016 | 7:48am GMT

# Whistleblower alleges Avita paid kickbacks to doctors to boost sales

In a whistle-blower lawsuit filed in London, a former employee of drug giant Avita alleged that chief executive Roger Wadsworth and other executives engaged in a fraudulent scheme to funnel tens of millions of pounds in kickbacks and other incentives in order to get the company's diabetes drugs prescribed and sold.

Ex-Avita paralegal Vanesa Rodrick claims that the company used contracts which appeared to be for legitimate purposes in order to direct money to hospitals, doctors and retail pharmacy chains to help persuade them to prescribe Avita's medicines over cheaper alternatives.

Rodrick became aware of the alleged scheme in March 2016, when she received electronic requests for her approval of nine Avita contracts worth a total of $34 million. At the time, Rodrick was working in the company's U.K. headquarters in London, where she was responsible for reviewing contracts.

Rodrick was fired in September, after allegedly suffering retaliation for refusing to approve the contracts.

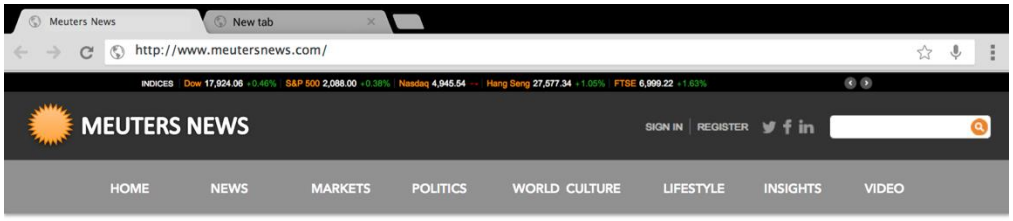
Avita released a statement on Tuesday categorically denying the allegations. In the statement, Avita said: "Ms Rodrick is a disgruntled former employee who is opportunistically attacking our company. The allegations are without merit, and Avita will vigorously defend the suit".

The evidence presented by the whistleblower in support of her claims appears to be quite strong, according to a legal expert. The lawsuit includes emails from top company executives which supposedly prove that Avita executives instructed employees to alter the contracts so as to conceal the kickbacks.

Preliminary hearings are expected to start in January.

(Reporting by Sean Strickland; Editing by Roberta Young)

*News text: weak evidence version*

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The evidence presented by the whistleblower in support of her claims appears to be rather weak, according to a legal expert. The lawsuit does not include any hard evidence which proves that Avita executives instructed employees to alter the contracts so as to conceal kickbacks, or that the purpose of the contracts was different from the one stated.

Preliminary hearings are expected to start in January.

(Reporting by Sean Strickland; Editing by Roberta Young)

**Appendix B: Scales and manipulation checks**

Perceived benevolence (from 1 [*strongly disagree*] to 7 [*strongly agree*])
1. Avita seems very concerned about the welfare of people like me.
2. The needs and desires of people like me seem to be very important to Avita.
3. Avita seems to really look out for what is important to people like me.
4. Avita appears to go out of its way to help people like me.

Perceived integrity (from 1 [*strongly disagree*] to 7 [*strongly agree*])
1. Avita seems to have a strong sense of justice.
2. Avita appears to try hard in being fair to others.
3. I like Avita's ethical values.
4. Sound moral principles seem to guide Avita's behavior.

Perceived credibility of the company's denial (7-point semantic differential scales)
1. Not at all believable / highly believable
2. Not at all trustworthy / completely trustworthy
3. Not at all true / absolutely true
4. Not at all credible / very credible

Generalised distrust of pharmaceutical corporations (from 1 [*strongly disagree*] to 7 [*strongly agree*])
1. People who run pharmaceutical corporations will lie if doing so will increase company profits.
2. Pharmaceutical corporations do not care about acting ethically.
3. Pharmaceutical corporations will break laws if they can make more money from it.
4. Pharmaceutical corporations put their own interests above the public's interests.

Political orientation (7-point semantic differential scale)
1. Liberal / conservative

Manipulation checks (from 1 [*strongly disagree*] to 7 [*strongly agree*])
1. Avita has admitted to paying illegal kickbacks to hospitals, doctors and pharmacies.
2. The evidence against Avita is very strong.

Realism checks (from 1 [*strongly disagree*] to 7 [*strongly agree*])
1. Avita's About Us page looks realistic.
2. The new article looks realistic.

**Appendix C: Descriptive statistics, validity of the measurement model (Confirmatory Factor Analysis), complete analysis of the structural model**

**Descriptive statistics**

Table C1 reports overall mean values, reliabilities, and inter-correlations of the dependent variables used in the study. Variable means, standard deviations, and number of observations by condition are given in Table C2.

Table C1. Variable means, standard deviations, reliabilities, and intercorrelations

| Variable | *M* | *SD* | *α* | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|
| (1) Perceived benevolence | 2.96 | 1.24 | 0.89 | | | | |
| (2) Perceived integrity | 2.91 | 1.22 | 0.90 | 0.63* | | | |
| (3) Perceived credibility of the company's denial | 3.06 | 1.04 | 0.88 | 0.50* | 0.61* | | |
| (4) Generalised distrust of pharmaceutical companies | 4.72 | 1.06 | 0.83 | -0.21* | -0.17* | -0.29* | |
| (5) Political orientation | 2.75 | 1.39 | n.a. | 0.19* | 0.09 | 0.18* | -0.20* |

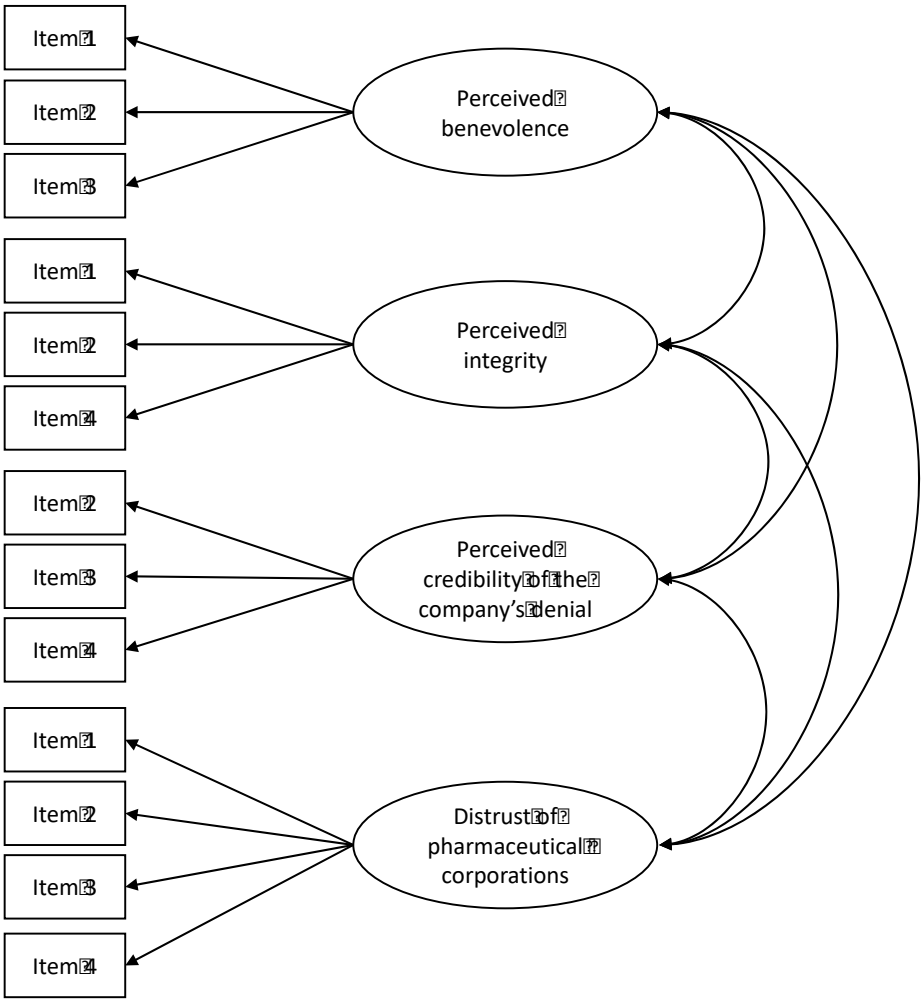
Table C2. Number of observations, means, and standard deviations by condition

| | | Perceived benevolence | | Perceived integrity | | Perceived credibility of denial | |
|---|---|---|---|---|---|---|---|
| | N | M | SD | M | SD | M | SD |
| Weak evidence | | | | | | | |
| Exposure | 71 | 3.22 | 1.34 | 3.23 | 1.16 | 3.22 | 1.13 |
| No exposure | 76 | 2.77 | 1.11 | 3.06 | 1.26 | 3.36 | 0.93 |
| Strong evidence | | | | | | | |
| Exposure | 78 | 3.37 | 1.25 | 2.91 | 1.15 | 2.99 | 1.04 |
| No exposure | 72 | 2.44 | 1.03 | 2.44 | 1.20 | 2.67 | 0.93 |

**Validity of the measurement model (Confirmatory Factor Analysis)**

To assess the validity of the measurement model, we conducted a Confirmatory Factor Analysis (CFA) using maximum likelihood estimation. We specified a four-factor model in which each item was loaded on its intended latent factor. All the factors were allowed to correlate with each other. The hypothesized model is represented in Figure C1.

Figure C1. Hypothesized measurement model




Prior to conducting the CFA, the multivariate normality assumption was evaluated using Mardia's (1970) normalized estimate of multivariate kurtosis. The observed score (Mardia's normalised coefficient = 58.16, $p < .001$) was found to be substantially higher than the maximum acceptable value of 5.00 recommended by Bentler (2006), indicating that our data violated the multivariate normality assumption. Bootstrapping was therefore used to obtain a bias-corrected *p* value for the chi-square test of model fit (Bollen & Stine, 1993), and bias-corrected parameter estimates for all path coefficients in the model (Byrne, 2010). The procedure involved drawing 2,000 random samples with replacement from the raw data file to calculate the corrected *p* value, and additional 2,000 random samples to calculate the corrected parameter estimates.

The overall model fit was assessed using multiple fit indices, as suggested by Hu and Bentler (1999). As shown in Table C3, all the goodness-of-fit indices considered met the recommended criteria (cf. Byrne, 2010; Hair et al., 2014; Hu & Bentler, 1999). These results indicate good fit between the model and the observed data, which supports the adequacy of the hypothesized model.

Table C3. Goodness-of-fit indices: Measurement model

| **Fit index** | **Recommended cut-off value** | **Observed score** |
|---|---|---|
| Chi-square/df | < 3 | 1.31 |
| *p* value for the model | > .05 | .42 (Bollen-Stine bootstrapped *p*) |
| Comparative Fit Index (CFI) | > .95 | .99 |
| Goodness-of-Fit Index (GFI) | > .95 | .96 |
| Adjusted Goodness-of-Fit Index (AGFI) | > .90 | .94 |
| Root Mean Square Error of Approximation (RMSEA) | < .06 | .03 (confidence intervals: .00 - .05; PCLOSE = .94) |

After assessing the overall goodness of fit for the hypothesized model, we examined the convergent and discriminant validity of the psychometric scales included in the questionnaire. Convergent validity refers to the extent to which measures of the same variable correlate with one another, where the underlying assumption is that scores obtained for the same latent factor will be highly interrelated (Hair et al. 2014: 618). Discriminant validity, by contrast, measures the extent to which alternative factors are distinct from one another (Hair et al. 2014: 619). In our case, we would expect the scores obtained on items measuring benevolence to show a stronger association with each other than with those obtained on items intended to measure integrity, credibility of the denial and generalised distrust of pharmaceutical corporations.

Convergent validity was assessed using three common measures: (i) standardized factor loadings, (ii) Average Variance Extracted (AVE), and (iii) construct reliability coefficients (for an overview of these measures, see Hair et al., 2014, pp. 618-619). Factor loadings reflect the strength of the relationship between individual items and the factor they are assumed to represent. Standardized estimates higher than .70 are indicative of a strong relationship (Hair et al., 2014, p. 618). AVE is a summary indicator of convergence (Hair et al., 2014, p. 619), representing the amount of variance that is explained by the latent factor relative to the amount of variance due to random measurement error (Fornell & Larcker, 1981). An AVE of .50 or higher is considered a positive indication of convergent validity (Hair et al., 2014, p. 619). Finally, construct reliability coefficients measure the internal consistency of a scale. Values higher than .70 indicate good reliability (Hair et al., 2014, p. 619).

The results of the CFA show that all items load significantly onto their respective factors, with standardized factor loadings ranging from .71 to .90. The AVE for all the hypothesized factors exceeded the recommended threshold of .50. Similarly, construct reliability coefficients for all the hypothesized factors were above the .70 criterion for acceptable internal consistency. These results, which are reported in full in Table C4, provide strong support for the convergent validity of our measures.

Table C4. Convergent validity of measurement model

| **Factors** | **Items** | **Standardized factor loadings** | **Average variance extracted** | **Construct reliability** |
|---|---|---|---|---|
| Perceived benevolence | Item 1 | .86 | .74 | .89 |
| | Item 2 | .82 | | |
| | Item 3 | .90 | | |
| Perceived integrity | Item 1 | .84 | .76 | .90 |
| | Item 2 | .87 | | |
| | Item 4 | .89 | | |
| Perceived credibility of the company's denial | Item 2 | .83 | .71 | .88 |
| | Item 3 | .82 | | |
| | Item 4 | .88 | | |
| Generalised distrust in pharmaceutical corporations | Item 1 | .73 | .55 | .83 |
| | Item 2 | .78 | | |
| | Item 3 | .75 | | |
| | Item 4 | .71 | | |

Discriminant validity was assessed in two ways. First, the hypothesized model was compared with three alternative models by means of chi-square difference tests (Bagozzi & Phillips, 1982). Given the high correlations between the measures of benevolence and integrity ($r$ = .71), and between integrity and credibility of the company's denial ($r$ = .67), it was important to establish that they do in fact represent distinct factors. Therefore, the hypothesized four-factor model was compared to (i) a more parsimonious model in which perceived benevolence and perceived integrity were conflated into a single factor, (ii) a model in which perceived integrity and credibility of the company's denial were combined into a single factor, and (iii) a unidimensional model with all items loading on one factor only. The results of the chi-square difference tests revealed that the hypothesized model

significantly outperformed all the alternative models. In addition, as shown in Table C5, all the fit indices were better for the hypothesized model than for the competing models.

Table C5. Comparison of alternative measurement models

| | χ2 | *df* | Model p value | CFI | GFI | AGFI | RMSEA | Δχ2 | Δ*df* | Δ*p* |
|---|---|---|---|---|---|---|---|---|---|---|
| (A) Hypothesized model (four factors) | 76.99 | 59 | .42 | .99 | .96 | .94 | .03 | | | |
| (B) Three-factor model with benevolence and integrity combined | 321.05 | 62 | > .001 | .89 | .83 | .75 | .12 | A vs. B: 244.05 | 3 | > .001 |
| (C) Three-factor model with integrity and credibility combined | 328.54 | 62 | > .001 | .89 | .83 | .75 | .12 | A vs. C: 251.55 | 3 | > .001 |
| (D) Single-factor model | 947.81 | 65 | .005 | .62 | .62 | .46 | .21 | A vs. D: 870.81 | 6 | > .001 |

An alternative approach to assessing discriminant validity consists in comparing the AVE values for any two factors with the square of the correlation coefficient between the factors (Hair et al., 2014). Positive evidence of discriminant validity is obtained when the AVE value is greater than the squared correlation estimates, as this shows that the latent factor explains more of the variance in the indicator items than it shares with another factor (Hair et al., 2014, p. 620). The results of the analysis, which are given in Table C6, show that AVE values exceeded the squared inter-construct correlations for all pairs of factors. Combined, the results of the two tests outlined above provide solid evidence for the discriminant validity of the measures used in this study. In other words, based on these findings, we may conclude that each scale used represents a distinct latent factor.

Table C6. Comparison of squared inter-construct correlations and AVE

| | (1) | (2) | (3) | AVE |
|---|---|---|---|---|
| (1) Perceived benevolence | | | | 0.74 |
| (2) Perceived integrity | 0.50 | | | 0.76 |
| (3) Perceived credibility of the company's denial | 0.31 | 0.45 | | 0.71 |
| (4) Generalised distrust of pharmaceutical corporations | 0.06 | 0.04 | 0.11 | 0.55 |

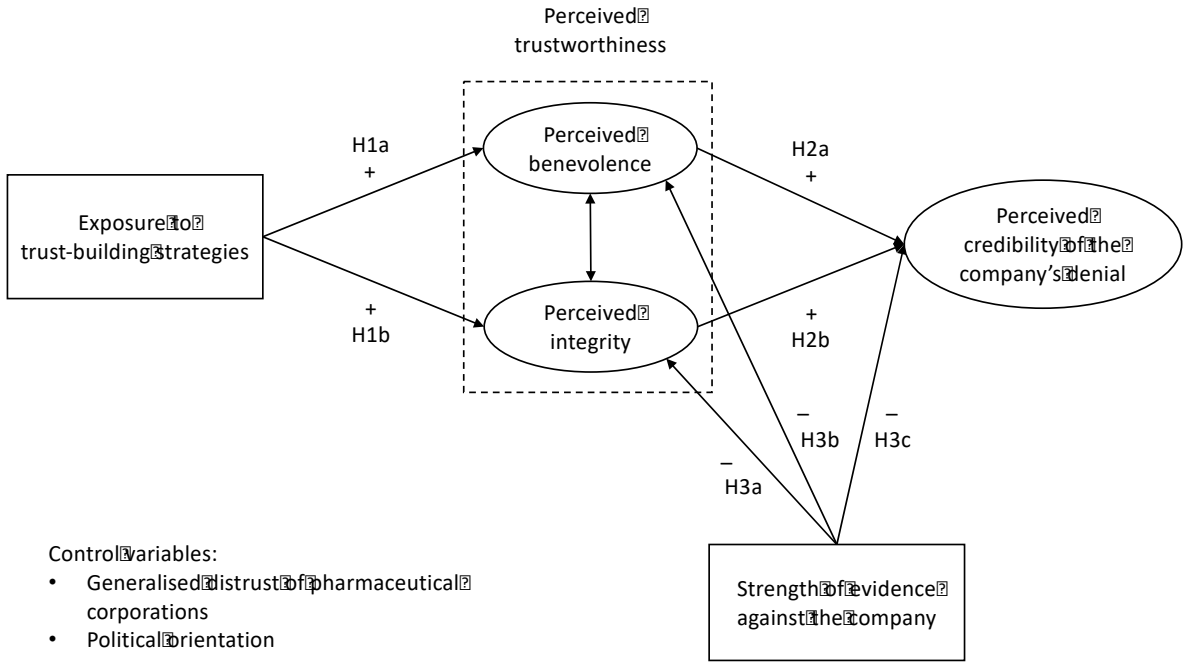
In conclusion, the results of the CFA indicate that the four latent factors considered, i.e. benevolence, integrity, credibility of the company's denial, and generalised distrust in pharmaceutical corporations, were appropriately operationalized and measured. Having established

the validity of the measurement model, relationships between factors may be analysed and specific hypotheses tested.

**Complete analysis of the structural model**

After validating the measurement model, we tested the full structural model, which specifies the hypothesized causal relationships between the factors. The theoretical model is depicted in Figure C2 below. The analysis was conducted using the maximum likelihood estimation method. The categorical variables were dummy coded: 'strength of evidence' was coded 0 for weak evidence and 1 for strong evidence; 'trust-repair strategies' was coded 0 for the 'no exposure' condition and 1 for the 'exposure' condition. Since the multivariate normality assumption was violated (Mardia's normalised coefficient = 54.74, $p < .001$), the statistical significance of the model as a whole and of the path coefficients was estimated using bootstrapping based on 2,000 random samples for the model $p$ value and 2,000 random samples for the path estimates. The $p$ values reported below are bootstrap-corrected.

Figure C2. Path model of hypothesized causal relations between experimental variables




Before examining each individual causal path, the overall fit of the model was assessed. As shown in Table C4, all the goodness-of-fit indices considered indicated good model fit according to recommended benchmarks. These results confirm that the hypothesized model is plausible (Byrne, 2010).

Table C5. Goodness-of-fit indices: Full structural model

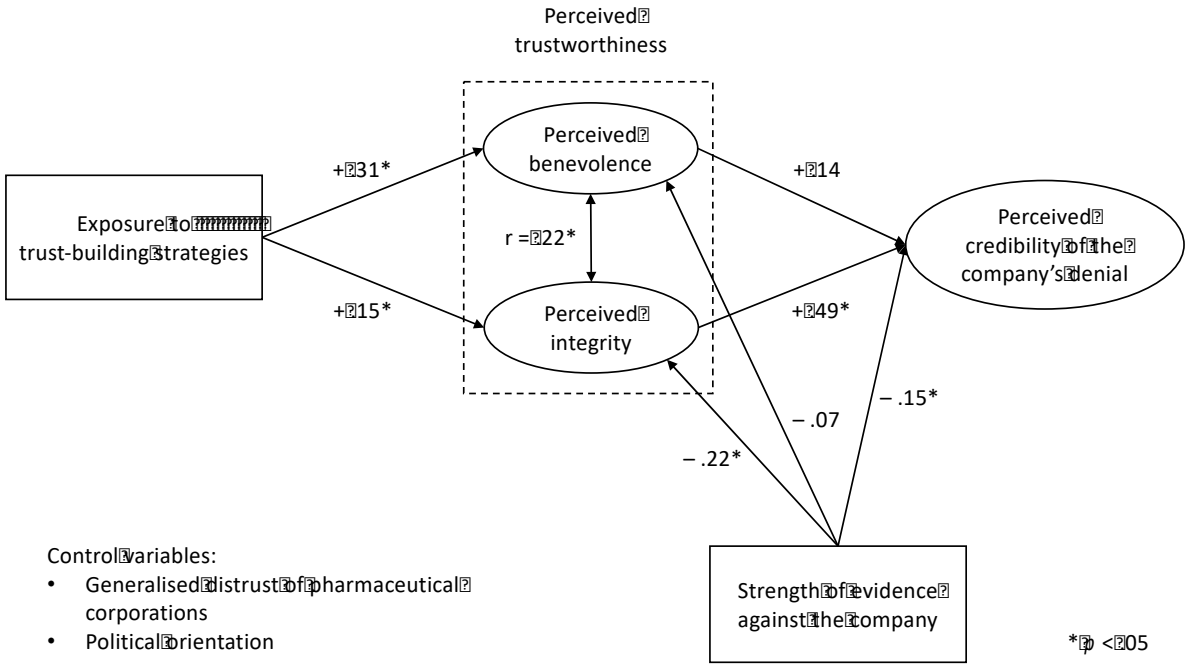
| **Fit index** | **Recommended cut-off value** | **Observed score** |
|---|---|---|
| Chi-square/df | < 3 | 1.23 |
| *p* value for the model | > .05 | .41 (Bollen-Stine bootstrapped *p*) |
| Comparative Fit Index (CFI) | > .95 | .99 |
| Goodness-of-Fit Index (GFI) | > .95 | .95 |
| Adjusted Goodness-of-Fit Index (AGFI) | > .90 | .93 |
| Root Mean Square Error of Approximation (RMSEA) | < .06 | .03 (confidence intervals: .00 - .04; PCLOSE = .99) |

The standardized path coefficients and associated bootstrap-corrected *p* values are reported in full in Table C5 and are also included in the path diagram in Figure C3. These coefficients indicate the magnitude and sign of the effect of one factor on another. Following standard conventions, effects with an associated *p* value equal to or lower than .05 were considered statistically significant.

Table C6. Results of the full structural model

| **Hypothesis** | **Path** | **Hypothesized effect** | **Standardized path coefficient** | **Bootstrap-corrected *p* value** | **Conclusion** |
|---|---|---|---|---|---|
| H1a | trust-building strategies → benevolence | + | .31 | .001 | supported |
| H1b | trust-building strategies → integrity | + | .15 | .018 | supported |
| H2a | benevolence → credibility of the company's denial | + | .14 | .101 | rejected |
| H2b | integrity → credibility of the company's denial | + | .49 | .001 | supported |
| H3a | evidence of the company's guilt → benevolence | - | -.07 | .244 | rejected |
| H3b | evidence of the company's guilt → integrity | - | -.22 | .001 | supported |
| H3c | evidence of the company's guilt → credibility of the company's denial | - | -.15 | .006 | supported |

Figure C3. Graphical representation of the results of the full structural model




Hypothesis 1a predicted that exposure to trust-building strategies would positively influence perceptions of the company's benevolence. The results of the analysis show that the strategies did indeed have a significant positive effect on perceived benevolence ($\beta$ = .31, $p$ = .001). Hypothesis 1a is therefore supported. Hypothesis 1b stated that the trust-building strategies would similarly enhance perceptions of the company's integrity. The results show a significant positive effect on perceived integrity ($\beta$ = .15, $p$ = .018). Accordingly, Hypothesis 1b is also confirmed.

Hypothesis 2a postulated that perceived benevolence would, in turn, positively influence credibility judgements of the company's denial. The effect of benevolence on perceived credibility of the denial was positive but not statistically significant ($\beta$ = .14, $p$ = .101). Therefore, hypothesis 2a was not supported by the data. Hypothesis 2b predicted that perceived integrity would positively influence the credibility of the company's denial. The results indicate that integrity had a strong and highly significant positive effect on credibility ($\beta$ = .49, $p$ = .001). Hypothesis 2b is therefore upheld.

Hypothesis 3a suggested that evidence of the company's guilt would negatively affect perceptions of its benevolence. This hypothesis is rejected; evidence of the company's guilt had a minor and nonsignificant effect on perceived benevolence ($\beta$ = -.07, $p$ = .244). Hypothesis 3b predicted that evidence of the company's guilt would likewise negatively affect perceptions of the company's integrity. The results confirm this hypothesis; evidence of the company's guilt had a significant negative effect on perceived integrity ($\beta$ = -.22, $p$ = .001). Similarly, hypothesis 3c proposed that the credibility of the company's denial would be negatively affected by evidence of the company's guilt. The results show that evidence of the company's guilt did have a significant negative effect on credibility judgements ($\beta$ = -.15, $p$ = .006). Hypothesis 3c is therefore confirmed.

As discussed in Section 4.1.1, the model also included two control variables: generalised distrust of pharmaceutical corporations and political orientation. The results of the analysis reveal that the former factor significantly and negatively influenced perceived benevolence ($\beta$ = -.21, $p$ = .001), perceived integrity ($\beta$ = -.19, $p$ = .003) and perceived credibility of the company's denial ($\beta$ = -.19, $p$ = .002). Political orientation had a significant effect only on perceived benevolence, such that the

more conservative the political orientation of the participant, the more benevolent the company was perceived as being ($\beta$ = .17, p = .005). The two control variables were significantly correlated with each other ($r$ = -.22, $p$ = .001).

**Appendix D: Descriptive statistics for the follow-up experiment**

Table D1 reports overall mean values, reliabilities, and inter-correlations of the dependent variables used in the study. Variable means, standard deviations, and number of observations by condition are given in Table D2.

Table D1. Variable means, standard deviations, reliabilities, and intercorrelations

| Variable | *M* | *SD* | *α* | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|
| (1) Perceived benevolence | 2.71 | 1.22 | 0.94 | | | | |
| (2) Perceived integrity | 2.96 | 1.28 | 0.93 | 0.81* | | | |
| (3) Perceived credibility of the company's denial | 3.17 | 1.28 | 0.96 | 0.74* | 0.69* | | |
| (4) Generalised distrust of pharmaceutical companies | 5.36 | 1.36 | 0.94 | -0.66* | -0.57* | -0.54* | |
| (5) Political orientation | 3.29 | 1.77 | n.a. | 0.17 | 0.23 | 0.31* | -0.15 |

Table D2. Number of observations, means, and standard deviations by condition

| | | Perceived benevolence | | Perceived integrity | | Perceived credibility of denial | |
|---|---|---|---|---|---|---|---|
| | N | M | SD | M | SD | M | SD |
| Exposure to Wikipedia page | 34 | 2.91 | 1.10 | 3.09 | 1.18 | 3.43 | 1.24 |
| No exposure | 35 | 2.50 | 1.30 | 2.83 | 1.38 | 2.92 | 1.30 |