How Concrete Language Shapes Customer Satisfaction

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ABSTRACT

Consumers are often frustrated by customer service. But could a simple linguistic cue help improve customer satisfaction? We suggest that linguistic concreteness-- the specificity of words employees use when speaking to customers-- can shape consumer attitudes and behaviors. Five studies, including text analysis of over 1,000 real consumer-employee interactions in two different field contexts, demonstrate that customers are more satisfied, willing to purchase, and purchase more when employees speak to them concretely. This occurs because customers infer that employees who use more concrete language are listening (i.e., attending to and understanding their needs). These findings deepen understanding of how language shapes consumer behavior, reveal a psychological mechanism by which concreteness impacts person perception, and provide a straightforward way that managers could help enhance customer satisfaction.

Keywords: language, concreteness, listening, customer service, social perception

Frustration with customer service is one of life's most common complaints (PwC 2018), and employee inattention is a central cause (Price, Arnould, and Tierney 1995; van Dijk, Kamaruzdin, and Anjum 2019). Consumers often feel like service people don't care and are just "going through the motions" rather than actually listening and responding to their needs (Hyken 2018; Parker 2019).

This paper examines whether the words employees use can help. Specifically, we suggest that speaking concretely can improve customer satisfaction. Consider a consumer shopping for a shirt in a store. The salesperson might refer to that shirt very concretely (e.g., *shirt*), very abstractly (e.g., *that*), or somewhere in between (e.g., *item*, *top*, or *clothing*). While these may seem like trivial linguistic variations, we suggest that these small changes can signal that the employee is listening (i.e., attending to and understanding the customer's needs), which boosts consumer attitudes and behaviors.

Five studies, combining textual analysis of over one thousand real customer service interactions in the field with carefully controlled experiments, explore this possibility. They demonstrate that linguistic concreteness improves attitudes towards the employee and company—as well as actual consumer spending—and illustrate the psychological mechanism underlying these effects.

Our findings make four main contributions. First, we deepen understanding of how language shapes consumer behavior. While a growing body of research has begun to examine the importance of linguistic devices in consumer contexts such as ads, online reviews, and social media (cf. Pogacar, Shrum, and Lowrey 2018), less work has studied how language shapes consumer beliefs and behavior in everyday conversations with sales or service people (Ordenes et al. 2014; Packard, Moore, and McFerran 2018). We demonstrate the important role of linguistic concreteness and the underlying process that drives its impact in this context.

Second, we demonstrate that concrete language can shape social perceptions about a speaker's attention and understanding. Prior research shows that a speaker's biases towards a target (i.e., person or object) impacts how concretely the speaker talks about that target, and the inferences others draw about the speaker's attitudes (e.g., Schellekens, Verlegh, and Smidts 2010; Semin 2008). Rather than focusing on biases and attitudes, however, we demonstrate that concreteness can have a different psychological function. Concrete language can generate inferences about whether someone else is *listening*: whether observers believe someone else is attending to, and understanding, their personal needs.

Third, from a substantive perspective, these results have clear implications for improving the customer experience (Meyer and Schwager 2007). Small linguistic shifts can have a substantial impact. The field data suggest that increasing linguistic concreteness by one standard deviation improves customer satisfaction by 9% and actual spending by at least 13%.[1] Further, compared to traditional managerial tools (e.g., sales training or customer compensation), encouraging employees to use more concrete words when referencing the customer's interests (e.g., *that shirt* rather than just *that*) should be more straightforward and less costly.

Fourth, from a methodological perspective, we respond to the call for "nonstandard" methods in consumer research (Berger et al. 2020; Inman et al. 2018). We move beyond the constrained lexical typology of concreteness in the linguistic category model (Semin and Fielder 1988) and, using approaches from computational linguistics, consider tens of thousands of words, blending this with experiments.

Next, we review research on customer service, listening, and linguistic concreteness, and use these to help build our predictions.

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[1] We urge caution in assuming generalizability beyond these firms.

CUSTOMER SERVICE

Whether emailing customer support, calling customer service, or speaking face-to-face with retail or sales representatives, interacting with employees is a central feature of customer experiences with brands (Meyer and Schwager 2007). Great service experiences are the most direct route to customer satisfaction (Marinova, Singh, and Singh 2018; Parasuraman, Barry, and Zeithaml 1988), which shapes behavioral intentions (Smith, Bolton, and Wagner 1999; Zeithaml, Berry, and Parasuraman 1996), and future purchase (Sriram, Chintagunta, and Manchanda 2015).

Not surprisingly, then, thousands of academic articles seek to understand how to improve the quality of consumer interactions with sales and service people (cf. reviews by Ladhari 2008; Parasuraman and Zeithaml 2002). Initial research examined service quality as a function of the gap between customer expectations and firm performance (Lewis and Booms 1983) and tried to identify broad dimensions, or features, of importance (e.g., tangibles or access; Parasuraman, Zeithaml, and Berry 1985; Parasuraman et al. 1988). Subsequent work helped establish linkages between service quality and various outcomes (e.g., customer acquisition, satisfaction, and profits; e.g., Dawkins and Reichheld 1990; Zahorik and Rust 1992; Smith et al. 1999).

One goal has been to identify specific behaviors or tactics that boost customer attitudes and intentions (cf. review, Snyder et al. 2016). Responding quickly, apologizing, or offering compensation or discounts are all beneficial (Davidow 2003; Rust and Chung 2006; Zeithaml et al. 1996). Employees can adapt their selling pitch to each customer (e.g., instead of making a "canned" presentation; Weitz, Sujan and Sujan 1986), use flattery (Chan and Sengupta 2010), use the right pronouns ("I" rather than "we"; Packard et al. 2018), or even just smile more (Wang et al. 2017), although such overt tactics often backfire (Campbell and Kirmani 2000).

Beyond specific behaviors or tactics though, might something simpler like the words employees use improve customer attitudes and intentions?

LISTENING

We suggest this possibility based on research on listening. Listening, conceptualized as *attending to and understanding* what someone has said (Bodie 2012; Steil, Barker, and Watson 1983) has been linked to a range of positive outcomes, including salesperson performance, relationship quality, and customer satisfaction (Castleberry, Sheppard, and Ridnour 1999; de Ruyter and Wetzels 2000; Drollinger, Comer, and Warrington 2006). Early communications research on listening focused on educational settings, where good listeners were defined as students who were "more attentive during classroom activities" (Nichols 1948, p. 160). Subsequent work argued that for listening to occur, information not only needs to be attended to, but also understood, leading to comprehension assessments through "listening tests" (Bodie 2012; Watson and Barker 1984). Although listening is relatively under-researched in psychology, "paying full attention to" and "understanding" the speaker are commonly described as the conditions necessary for listening to have occurred (Huang et al. 2017, p. 432).

While marketing research sometimes uses slightly different language, it focuses on the same themes of attending and understanding. de Ruyter and Wetzels (2000, p. 277), for example, note that a key aspect of listening is "attentiveness," or the extent to which someone is receiving a message. Similarly, Castleberry et al (1999, p. 31) define the first step in salesperson listening as "the reception of [customer-transmitted] stimuli and attending to the [customer's] message". Ramsey and Sohi (1997, p. 128) further note that marketing agents must first, "filter out 'noise' so that she or he is attending primarily to the message from the buyer." Beyond simply attending, though, listening also entails attempting to "understand the message by assigning meaning to the

verbal and nonverbal messages that are transmitted" (de Ruyter and Wetzels 2000, p. 277).

Ramsey and Sohi (1997, p. 128) suggest agents must not only attend to what is being said, but also

"understand what is being said." Castleberry et al (1999, p. 31) describe this part of listening as

"decoding" the received message such that the employee can "accurately understand and evaluate

the buyer's message."

Importantly, for employee listening to impact the customer, the customer must *perceive*

that the employee is listening. Imagine talking to someone, but that person provides no response.

They might have attended to and understood what was said, but if they don't respond, either

verbally or otherwise, there is no way to know whether they heard and processed what was said

(Bodie 2012; Steil, Barker, and Watson 1983). For listening to have an impact then, employees

must *communicate* that they are attending and understanding through their behavioral responses

(Castleberry et al 1999; de Ruyter and Wetzels 2000; Parasuraman et al. 1991; Ramsey and Sohi

1997). Could a simple language feature help fulfill this role?

CONCRETE LANGUAGE

We suggest that one way employees can signal listening is through linguistic concreteness.

Concreteness describes how much a word refers to an actual, tangible, or "real" entity, specifying

objects and behaviors in a manner that seems more specific, familiar, and perceptible to the eye or

mind (i.e., imaginable or vivid; Brysbaert, Warriner and Kuperman 2014; Semin and Fiedler

1988). While abstract language captures intangible qualities, ideas, or concepts (e.g., *love* or

anywhere), concrete language (e.g., *kiss* or *home*) arises from or appeals to immediate experience

(Fujita et al. 2005; Hansen and Wanke 2010; Langacker 1987; Semin and Fielder 1988). These

conceptions of linguistic concreteness have been extended to applications of Trope and

Liberman's (2010) construal level theory, where concrete representations of objects or processes

are similarly said to include more detailed features of the immediate situation, and to managerial communications, which describe lexical concreteness as language that is more detailed and context-specific (Miller et al. 2007; Pan et al. 2017).

Consider the kind of everyday things that different service providers might say to consumers. A waiter might ask a customer whether they would like *anything*, a *drink*, or *coffee*. A call centre worker could respond to a caller's inquiry by saying the package will be arriving *there*, at their *place,* or at their *door*. An employee at a cellphone retailer could refer to a new iPhone as a *product*, *device,* or *phone*. In each case, the options increase in specificity and imaginability. Concreteness also varies in other parts of speech. Describing a vehicle as *sporty* or *red* should make it more vivid. Rather than telling a customer they will *go* to the back of the store to look for a larger size, an employee who says they will *walk* to the back is using more imaginable and specific language to describe this action.

Each of these examples increase in linguistic concreteness (MRC psycholinguistic database; Brysbaert et al. 2014; Coltheart 1981; Paetzhold and Specia 2016; Spreen and Schulz 1966)[2] because they describe things or actions in a more vivid, perceptible, tangible, detailed, or specific manner. These examples further reveal that variations in concreteness manifest across different parts of speech, including those describing objects and actions. Thus, rather than a typology in which only a few types of words have discrete membership in a particular concreteness level (i.e., the linguistic category model; Semin and Fiedler 1988), linguistic concreteness can refer to variation in most words someone might choose to convey similar meaning.

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[2] MRC concreteness scores (range = 100-700) for comparative utterances in this paragraph: anything = 290, drink = 548, coffee = 602; there = 300, place = 460, door = 594; product = 457, device = 545, phone = 585; go = 309, walk = 497. We discuss this measure of linguistic concreteness further in Study 1.

A large body of work examines when and why people speak more or less concretely (cf. reviews by Fiedler 2008; Semin 2008). Overall, this literature demonstrates that when communicating positive things about the self or liked others, people use more abstract language because it suggests these positive attributes are generalizable, stable traits (e.g. "Lisa is kind" rather than "Lisa helped me"; Maass, Ceccarelli, and Rudin 1996). Linguistic concreteness can also shape inferences other people make about the speaker's attitudes or traits. Audiences infer that someone who uses more abstract language to describe another person positively is biased towards them because of their willingness to use more abstract, sweeping generalizations (Douglas and Sutton 2006; Wigboldus, Semin, and Spears 2000). Other work suggests concrete medical messages might make the source seem more credible (Miller et al. 2007), although evidence for this is mixed (Toma and D'Angelo 2015).

While relatively little work has examined concrete language in consumer contexts, a handful of papers (Aerts and Verlegh 2018; Schellekens et al. 2010, 2012) have examined linguistic concreteness in word of mouth. Similar to work on person description and perception, word of mouth using abstract language (e.g., "A Katasca car is high quality" rather than "A Katasca car does not rust") increases persuasion because it suggests the product is good in general (i.e., the car is high quality), while more concrete language suggests the positive aspects don't generalize beyond a specific situation (i.e., the car does not rust). Consequently, for positive word of mouth, abstract language boosts purchase intent.

THE CURRENT RESEARCH

Beyond speaker bias and persuasion, we propose that concrete language can also serve a different function, signaling how carefully someone is listening. Specifically, concrete language can suggest employees are paying attention to, and understanding, customer needs.

It's probably easier for employees to use more abstract language. Call centre and retail employees deal with dozens of customers a day. In the case of an online clothing retailer, for example, an employee may go from talking to someone who received the wrong size of shoes, to helping someone find the right t-shirt color. Rather than tailoring language to each, employees may fall in the habit of using the same stock phrases, e.g., "Sorry about this issue" or "I'll go look for that," whether the *this* or *that* in question is about shipping, a t-shirt, or some other topic. While more concrete language (i.e., "Sorry that we sent the wrong size" or "I'll go look for that t-shirt in grey") would be more focused on the specific situation, using more general, abstract, generic responses allows employees to save time and effort.

However, while abstract language might be easier for employees, consumers may react more positively to concrete language because it suggests employee attention to and understanding of their specific needs. As discussed, concrete language is more specific and vivid (Hansen and Wanke 2010; Langacker 1987; Semin and Fiedler 1988). If somebody says they're "driving home" rather than "coming home," it provides a more specific and imaginable sense of what they are actually doing. But it's difficult to speak concretely without listening. Just as fake reviews may include fewer concrete details because writers didn't experience the specific things they're writing about (DePaulo et al. 1982; Ott et al. 2011), service agents can't respond concretely if they didn't actually listen to the customer's specific, idiosyncratic needs. Using concrete language should suggest that the agent went to the effort to pay attention to and understand the customer's situation—they listened.

More broadly, our prediction is consistent with the maxim of relation (Grice 1975) and construal (Trope and Liberman 2010): concrete language suggests that the speaker is talking in a more situationally-relevant manner with their attention focused on the here and now (Maglio, Trope, and Liberman 2013). Compared to saying "I'll go search for that," saying "I'll go search

for that t-shirt" more clearly indicates that the employee is attending to what the customer wants in the immediate situation. This should imply that the employee is listening to the customer's personal needs.

This increase in perceived employee listening, in turn, should benefit the firm. It should boost customer satisfaction (de Ruyter and Wetzels 2000) and product attitudes (Ramsey and Sohi 1997) and increase future purchase volume (Cronin, Brady, and Hult 2000; Zeithaml et al. 1996).

In sum, we predict that using more concrete language should increase customer satisfaction, intentions, and behavior towards the firm. This should be driven by the belief that the employee is listening (i.e., attending to and understanding the customer's specific needs).

Six studies test these predictions. The first two test our theorizing in the field. Study 1 analyzes customer service calls to examine whether customer satisfaction is higher when employees speak more concretely. Study 2 uses written interactions and a different firm, testing whether consumers purchase more following an email interaction if employees respond with more concrete language. Both studies control for a broad range of features (e.g., aspects of the customer, employee, issue being discussed, other language features, and linguistic mimicry) to rule out alternative explanations.

To demonstrate linguistic concreteness' causal impact, and test the underlying process, the next three studies use experiments. Study 3 manipulates employee concreteness, demonstrating that it increases satisfaction and willingness to purchase because it signals perceived listening (i.e., attention and understanding). Study 4 further tests listening's mediating role and uses subtle linguistic manipulations to examine whether slightly increasing concreteness has a corresponding impact on satisfaction and purchase intent. Study 5 tests the psychological process through moderation. If perceived listening is driving the effects of linguistic concreteness, as we suggest, then its effects should be mitigated when the language used suggests the agent is not actually

paying attention. Study 5 also examines downstream consequences of perceived listening (e.g., perceived empathy, closeness), further affirming its centrality in driving concreteness's effect.

STUDY 1: SPEAKING CONCRETELY IN THE FIELD

Study 1 investigates whether customers are more satisfied when employees speak concretely. Using customer service phone calls to a major online apparel retailer, we examine whether employees who use more concrete language are seen as more helpful.

Data and Method

A large American online apparel retailer provided 200 audio recordings of customer service calls. As a dependent measure, they included their key measure of customer satisfaction, how helpful customers felt the employee was (1 = not at all helpful; 4 = very helpful), captured moments after the call was over. Perceived employee helpfulness is a key aspect of performance-based measures of customer satisfaction (Cronin and Taylor 1992; Parasuraman et al. 1991). For each of the four levels of this measure, the company provided a random sample of 50 calls. The company also provided control variables we describe later.

A professional transcription service converted the audio recordings to text. To control for conversational dynamics such as linguistic mimicry (Moore and McFerran 2017), each conversational turn was treated as a separate record (e.g., employee turn 1: "How can I help you?", customer turn 2 :"I need to return something", and employee turn 3: "I can help"). At least part of the recording was inaudible for 15 calls, leaving 185 for analysis. Conversations lasted 6.19 minutes on average (SD = 3.97) and contained 66.75 turns (SD = 44.49).

We used natural language processing to measure linguistic concreteness. Words were scored using perceived concreteness ratings from Paetzold and Specia (2016), which uses a

bootstrapped extension of the MRC psycholinguistic database to score over 85,000 modern

English words on a continuous scale of 100-700. This scoring is based on extensive work in

which participants rated the perceived concreteness of different words (Coltheart 1981; Paivio et

al. 1968; Spreen and Schulz, 1966). Words referring to more tangible, specific, imaginable objects,

materials, people, (e.g. nouns, pronouns, adjectives), processes (e.g. verbs, adverbs), or

relationships (e.g., prepositions, conjunctions) were perceived as more concrete while words

referring to abstract concepts or less tangible objects, processes, or relationships were perceived as

less concrete. Results are the same using a prior, smaller, and only human-judged concreteness

dictionary of which Paetzhold and Specia's is a direct extension (Brysbeart, Warriner, and

Kuperman 2014; see Web Appendix for details).

We computed a concreteness score for each conversational turn (averaging across all words

in that turn) as well as for each conversational participant (averaging across all words over all their

turns). Results were the same whether or not stop words commonly excluded from linguistics

analyses (e.g., *but*, *and*) were retained. We report results excluding stop words.

Finally, ordinary least squares regression examined the relationship between employee

linguistic concreteness and customers satisfaction (N = 185). Research (Marquardt 2012;

Rawlings, Pantula, and Dickey 1998) recommends reporting standardized results when variables

do not share similar scales (e.g., 100-700 for MRC concreteness vs. 18-100 for customer age vs. 1-

4 for customer satisfaction), so all continuous measures were standardized (z-scores).

Unstandardized results do not differ in sign or significance (all key ps < .05 or better).

Results

As predicted, customers were more satisfied when the employee used more concrete language (b = .17, SE = .07, t = 2.36, p = .019). A one standard deviation increase in concreteness (5.6% increase) is associated with an 8.9% increase in customer satisfaction.

Control Variables. A more extensive model shows this relationship persists controlling for a variety of alternative explanations, including aspects of the call, customer, and employee.

First, we control for aspects of the call. Conversational topics can shape how people speak (Blankenship and Craig 2011), so one could argue that, rather than being driven by concreteness, the results are driven by the contents of the call. If employees speak more abstractly when addressing more complicated issues the customer feels more negatively about, for example, it could be the issue, rather than concreteness itself, that is driving the effects.

We control for call content in four ways. Most simply, we include dummies for the six different call *Reasons* noted by the company (e.g., account and shipping). To provide a more fine-grained control for content, we use customer language to uncover the latent mixture of issues using *Topic Modeling* (latent Dirichlet allocation, Blei 2012; see the Web Appendix for details). We also had two judges evaluate the call's *Severity* (1 = not at all severe, 5 = very severe; ICC (2,1) = .720) based on how the customer spoke for the first part of each call. Finally, longer calls might make it more difficult for employees to remain attentive (de Ruyter and Wetzels 2002), which might lead them to speak more abstractly, so we control for call *Length* in seconds.

Second, we control for aspects of the customer. To start, we include all available demographics (i.e., customer *Age*, *Gender*, and geographic *Region*). In addition, loyal or high value customers may tend to be differentially satisfied or interact with employees differently, which could shape employee language or customer satisfaction (Niederhoffer and Pennebaker 2002). To control for these possibilities, we include the customer's *Lifetime Expenditure*. Further, the customer's *Pre-existing Attitude* towards other aspects of the company could shape both their

satisfaction and how they interact with the employee. To account for this possibility, we control for the customer's attitude towards their pre-call shopping experience and the website.[3]

Alternatively, one could wonder whether the results are driven by how the customer speaks. To account for the possibility that satisfied customers may tend to speak more concretely, leading employees to speak more concretely in response (e.g., linguistic mimicry, Moore and McFerran 2017), we control for *Customer Concreteness*. To control for other major language features that have been extensively linked to psychological phenomena, we include the psychological process dictionaries from Linguistic Inquiry and Word Count (*LIWC*; cognition, emotion, sociality, perception, motivation, time, and formality; Pennebaker et al. 2015).

Third, we control for aspects of the employee. One could argue that in addition to speaking more concretely, experienced employees also do other things that increase satisfaction. To assess this possibility, we included employee *Tenure* in days and the volume of calls they've handled (*Lifetime Calls*). Further, to account for the possibility that unobservable individual differences drove the results, we included a *random effect* for each employee (N = 130).

Even after accounting for these controls, customers remained more satisfied when employees used more concrete language (b = .13, SE = .06, t = 2.10, p = .037; see Table 1, model 2 and Web Appendix Table W2, model 5). Reduced models that independently account for call, customer, and employee features appear in Web Appendix Table W2 (models 2-4). Concreteness has a significant positive effect under all specifications. Correlations, detailed results for the 52 control variables, and investigation of conceptually plausible moderation by selected controls appear in the Web Appendix.

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[3] Given these were captured at the end of the call, one could be concerned that they were impacted by employee concreteness, but this was not the case (shopping experience b = .13, SE = .13, t = 1.07, p = .286; website b = .003, SE = .12, t = .03, p = .976).

Results also persist using penalized regression approaches (Lasso and Ridge) that include automatic variable selection and regularization to help account for collinearity (see Web Appendix for details and results), and in an ordinal logit specification treating customer satisfaction as a four-level discrete outcome with (b = .70, SE = .33, t = 3.23, p = .001) or without controls (b = .62, SE = .26, t = 2.35, p = .020).

Controlling for Conversational Dynamics. We controlled for customer concreteness at the call level, but one might still wonder whether the results are driven by more *dynamic linguistic mimicry* at turn level. To account for this, we used vector auto-regression (VAR) to assess the directionality and duration of any turn-level mimicry effects (N = 12,349 turns). This approach allows us to control for the possibility that agent language is driven by what the customer said *recently* or vice versa, which could have a perpetuating or even multiplicative effect on the agent's use of concrete language (see Aerts, Smits, and Verlegh 2017).

First, we lagged employee and customer concreteness in each turn on their conversation partner's prior turn(s). Automatic selection via Akaike Information Criterion (AIC) supports a model in which employee concreteness is shaped by customer concreteness in the prior turn (lag 1 b = .04, SE = .01, t = 2.88, p = .004). Customer concreteness is only weakly impacted by employee concreteness in the prior turn (lag 1 b = .03, SE = .02, t = 1.83, p = .069). Lags greater than one turn were non-significant (ps > .15).

Second, to allow for dynamics in concreteness mimicry, we enter these two lag terms as controls in a version of the main regression model that operates at the turn rather than call level. After controlling for the significant lag effect (b = -.001, SE = .0004, t = -6.88, p < .001), however, customers remained more satisfied when employees used more concrete language (b = .002, SE = .001, t = 4.45, p < .001) in the prior (lagged) turn. These results suggest that the positive effect of agent concreteness was robust to the dynamic back-and-forth of conversation.

TABLE 1: STUDY 1 RESULTS

DV: Employee helpfulness

	(1) Base	(2) Full
IV: Employee concreteness	**0.17** *	**0.13** *
	(0.07)	(0.06)
Controls		
Call		
Reason		Included
Topic model		Included
Severity		Included
Length		Included
Customer		
Gender		Included
Age		Included
Region		Included
Lifetime expenditures		Included
Pre-existing attitudes		Included
Customer Language		
Concreteness		Included
LIWC psych. dictionaries		Included
Employee		
Tenure		Included
Lifetime calls		Included
Random effect		Included
Employee Language		
LIWC psych. dictionaries		Included
Intercept	0.00	0.05 *
	(0.07)	(0.64)
R-squared	0.03	
Marginal R-squared		0.47
Conditional R-squared		0.74
N	185	185

p < .05; Standard errors appear in parentheses.
Statistical results for controls are presented in Web Appendix Table W2

Discussion

Study 1 provides preliminary support for our theorizing. Analysis of almost two hundred customer service calls demonstrates that customers were more satisfied when employees used more concrete language. The results were robust to a variety of more extensive model specifications. Customers were more satisfied when employees spoke more concretely after

accounting for more than 50 features of the customer, employee, and the call itself. Finally, the results were meaningful. A one standard deviation increase in concreteness was associated with an almost 9% increase in satisfaction.

Note that the automated measure used (MRC) tracks people's perceptions of concreteness well. First, as discussed, this measure was built using actual participant ratings of perceived concreteness (Brysbaert et al. 2014; Coltheart 1981). Second, when three judges (blind to hypotheses) rated a random sample of 100 different agent responses based on how concrete they are (ICC (2,3) = .86; $F = 7.30$, $p < .001$, 95% CI = .81, .90), judges' ratings were highly correlated with the automated linguistic measure ($r = .71$, $p < .001$).

STUDY 2: WRITING CONCRETELY IN THE FIELD

Study 2 has three main goals. First, while the results of Study 1 are supportive, and cast doubt on many alternative explanations, one could still wonder whether there is some other unobserved factor driving the result. Perhaps there is something in the vocal features used by the employee, or something else in the call dynamics that is driving the observed relationship.

To rule out these alternatives, rather than phone calls with multiple back-and-forths, Study 2 focuses on simpler email interactions that have only two turns. The customer writes the company and receives a reply. If the benefits of concreteness persist even in this simplified context, it casts doubt on the possibility that vocal aspects or mimicry can explain the results.

Second, one could wonder whether the results are somehow driven by idiosyncratic features of the company examined. Consequently, we test the generalizability of the results by examining a different retailer in a different category.

Third, we test whether the results extend to purchase behavior.

Data and Method

First, we worked with a large Canadian multi-channel retailer of consumer durables to acquire a random sample of 940 customer service interactions. Each includes a customer email and a reply by a service employee (i.e., two turns). The firm also provided how much the customer spent in the 90 days before and after the interactions (in dollars)[4] and some customer controls.

Second, we extracted linguistic concreteness and other language variables from the email text using the same NLP procedures described in Study 1.

Third, we applied the regression approaches from Study 1 to test the relationship between employee concreteness and downstream customer spending (N = 940). Because we also observe the customer's purchases before the interaction, all models include this to control for heterogeneity in baseline expenditures.[5] Not surprisingly, customers that spent more before the interaction also spend more after (b = .49, SE = .03, t = 15.23, p < .001), but pre-interaction spending was not linked to employee concreteness (b = -12.57, SE = 33.12 , t = -.38, p = .70). As explained for Study 1, continuous measures were standardized (z-scores). Unstandardized results are the same.

Results

As predicted, customers spent more after emails in which the employee used more concrete language (b =.08, SE = .03, t = 2.86, p = .004). A one standard deviation increase in concreteness

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[4] This time period was provided as the firm indicated most customers purchased at least quarterly. The statistical significance of results did not change when we included dummies for the minority of customers who had zero expenditures in the pre, post, or both (zero as a special case). This firm did not link their end-of-call survey results to individual customers, so a measure of customer satisfaction (e.g., helpfulness) is unavailable.
[5] The relationship between employee concreteness and customer expenditures also replicates excluding baseline purchase volume before the customer service interaction (b = .08, SE = .03, t = 2.39, p = .017).

corresponded to a more than $10 (30%) increase in customer spending over the 90 days following the email ($32.73 to $42.80) for this particular firm.

Given the size of this result, we also consider a more conservative model including a dummy controlling for "entry" (Blundell, Duncan, and Meghir 1998; Manchanda, Packard, and Pattabhiramaiah 2015). This approach accounts for potential inflation due to customers who were not active shoppers (i.e., zero purchases) during the 90 days before the call, and therefore could be "new entrants" to the market or firm rather than customers who actually increased their purchases from zero to a non-zero value. Results are the same (b = .07, SE = .03, t = 2.75, p = .006), albeit smaller ($4 or 13%).

Robustness. This relationship persists after including controls similar to those used in Study 1 (see Table 2 and Web Appendix for full list). Customers still spent more after interacting with employees that spoke more concretely (b = .12, SE = .05, t = 2.49, p = .013; Table 2, model 2; see Web Appendix for correlations (Table W4) and detailed results for the controls (Table W5)). Penalized regression approaches also support concreteness's role (Web Appendix Table W6).

Discussion

Study 2 provides further evidence for the relationship between concreteness and customer satisfaction. Examining a different company, and a different mode of communication (i.e., email rather than phone), customers spent more after interacting with employees that used more concrete language. This relationship persists controlling for a variety of interaction features, customer demographics, language features, heterogeneity in consumer's baseline purchase behaviors, and model specifications.

TABLE 2: STUDY 2 RESULTS

DV: Customer expenditures (90 days post)

	(1) Base	(2) Full
IV: Employee concreteness	**0.08** **	**0.13** *
	(0.03)	(0.05)
Controls		
Interaction		
Reason		Included
Complaint		Included
Length in words		Included
Customer		
Expendit. (90 days pre)	Included	Included
Gender		Included
Region		Included
Customer Language		
Concreteness		Included
LIWC dictionaries		Included
Judged severity		Included
LDA topic probabilities		Included
Employee Language		
LIWC dictionaries		Included
Intercept	0.01	-0.13
	(0.03)	(0.16)
R-squared	0.21	0.26
N	940	940

** p < .01, * p < .05; Standard errors in parentheses
Statistical results for controls are presented in Web Appendix Table W4

STUDY 3: MANIPULATING CONCRETENESS

The first two studies suggest that customers are more satisfied and purchase more when service employees use more concrete language. Further, the fact that these results hold across different outcomes, communication modalities, product categories, and firms underscores their generalizability.

That said, one could still wonder whether the relationship is truly causal. While we attempted to rule out alternative explanations, an even stronger test would be to manipulate

linguistic concreteness and see whether it increases customer satisfaction. Study 3 does this using

a scenario based on the language observed in Study 1.

Study 3 also tests the hypothesized mechanism. If using concrete language increases

satisfaction by making customers feel like the employee is listening, as we suggest, then

perceptions that the agent is attending to and understanding customer needs should mediate the

effect.

Method

Participants (N = 206, Amazon Mechanical Turk) imagined a customer service interaction.

They were told that they were shopping online, had ordered some shoes, and decided they wanted

to add a pair of pants to the order, so they called customer service for help.

The only difference between the two between-subjects conditions was the concreteness of

the employee's response. In the low [*high*] concreteness condition, participants were told the

employee said "Unfortunately, I can't just add something [*the pants*] from here. I can cancel the

order [*the shoes*], and you can submit a new order" (MRC score = 321.59 [350.53]).[6] A between

subjects pre-test (N = 68) asking "How concrete was the salesperson's reply?" (1 = not at all

concrete, 7 = very much concrete)[7] confirmed that the language in the high concreteness condition

(M = 5.26, SD = 1.60) was perceived as more concrete than the low concreteness condition (M =

4.09, SD = 1.85; *F*(1, 66) = 7.87, *p* = .007, η^2 = .107).

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[6] Our experimental stimuli were designed to have similar levels of concreteness to the field data from Study 1 (M =
329.62, SD = 18.74) and Study 2 (M = 350.46, SD = 15.40).
[7] Participants were also given a definition that read, "By concrete, we mean it used words that describe something you
can identify, imagine, or describe more accurately with your senses (e.g. touch, see, hear). For example, the word
"lizard" is more concrete than "creature," and "walk" is more concrete than "go." On suggestion of a reviewer, we
also tested a definition that read, "By concrete, we mean it used words that describe something in a more precise,
specific, or clear manner." Results were the same under either approach.

Next, we measured the key dependent variables. On seven point scales, participants completed a two-item measure of satisfaction with the employee ("How satisfied are you with the employee's response?", "How satisfied are you with your experience with this employee so far?"; $r = .90$) and willingness to purchase ("How likely are you to purchase something from this store?", "How likely would you be to use this store again?"; $r = .83$) both adapted from Maxham and Netemeyer (2002). Given the well-established link between customer satisfaction and behavioral intentions towards a firm (Cronin et al. 2000; Zeithaml et al. 1996), we collapse these into a single four-item measure ($\alpha = .94$). Results replicate when satisfaction and willingness to purchase are analyzed separately (see Web Appendix).

We then measured the hypothesized process, whether people believed that the agent was listening (i.e., attending to and understanding their needs). Participants responded to two-items adapted from Parasuraman et al (1991); "The service person gave me personal attention", "The employee understood my specific needs"; 1 = not at all true, 7 = very much true; $r = .69$).[8]

Finally, we collected ten additional items from prior research (see more detail below) to address alternative explanations based on mimicry, fluency, trueness, typicality, or memorability.

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[8] We do not use service research scales purported to measure listening (e.g., deRuyter and Wetzels 200; Ramsey and Sohi 1997) because they capture what listeners *do* rather than what listening *is* (Bodie et al. 2012). That is, these listening scales largely measure previously hypothesized behavioral consequences of listening (e.g. "The agent used short, affirmative words and sounds" or "The agent paraphrased what had been said", deRuyter and Wetzels 2000; "Seemed bored" or "Didn't interrupt me", Ramsey and Sohi 1997) rather than listening's underlying psychological facets (attention and understanding). We do not use the full Parasuraman et al. (1991) scale as other items capture factors unrelated to listening (e.g., "has up to date equipment", "has operating hours convenient to all customers").

Results

Customer Satisfaction. As predicted, using more concrete language increased customer satisfaction and willingness to purchase (M_{high} = 3.73, SD_{high} = 1.59 vs. M_{low} = 3.16; SD_{low} = 1.51; $F(1, 204)$ = 7.05, p = .009, η^2 = .033).[9]

Testing the Process. Further, using more concrete language increased the perception that employees were listening (i.e., attending to and understanding the customer's needs; M_{high} = 4.64, SD_{high} = 1.66 vs. M_{low} = 4.06; SD_{low} = 1.83; $F(1, 204)$ = 5.74, p = .017, η^2 = .027).

Finally, as predicted, mediation analysis (PROCESS model 4; Hayes 2018) confirmed that perceived listening mediated the effect of concrete language on satisfaction and purchase (indirect effect = .16, 95% CI [.03, .29]). Using more concrete language made employees seem more attentive to and understanding of the customer's needs (b = .29, SE = .12, t = 2.40, p = .017), boosting satisfaction and willingness to purchase (b = .54, SE = .05, t = 10.79, p < .001).

Alternative Explanations. Ancillary analyses cast doubt on several alternative explanations. First, rather than being driven by employee language, one could wonder whether the results are driven by the employee mimicking the customer's words (Moore and McFerran 2017). To test this possibility, participants were asked "To what extent was the salesperson mimicking what you said to them in their reply? By mimicking, we mean imitating or copying what you said" (1 = Not at all mimicking, 7 = Very much mimicking). Casting doubt on this alternative, mimicry did not vary by condition ($F(1, 204)$ = 1.10, p = .296, η^2 = .005).

Second, rather than being driven by perceived listening, perhaps concrete language is just more fluent. To test this, we adapted Lee and Aaker's (2004) two-item measure of processing

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[9] As the firm in Study 1 used employee helpfulness as their measure of satisfaction with the employee, we also asked participants "How helpful was the employee's response" on a seven-point scale. As expected, this measure was highly correlated with the satisfaction measure (r = .87), and replicates the main result when treated as a dependent measure for the effect of employee concreteness (M_{high} = 3.87 vs. M_{low} = 3.15; $F(1, 204)$ = 7.55, p = .007, η^2 = .036).

fluency ("How easy was it to process the salesperson's reply?", "How easy was it to understand the salesperson's reply?"; $r = .87$). Casting doubt on this alternative, however, fluency also did not vary by condition ($F(1, 204) = 1.17$, $p = .281$, $\eta^2 = .006$).

Third, perhaps concrete language seemed more factual or true (Hansen and Wanke 2010), which increased satisfaction. We asked participants the extent to which the salesperson's reply was "factually true" and "consistent with reality" ($r = .84$). This also did not vary by condition ($F(1, 204) = 2.66$, $p = .104$, $\eta^2 = .013$).

Fourth, it may be that employee language in the more concrete condition seemed more familiar or typical, and this drove the effects. To test this possibility, we used a three-item measure of linguistic typicality ($\alpha = .88$; Kronrod, Grinstein, and Wathieu 2011). Typicality, however, did not mediate the effect of concreteness on satisfaction and intent (indirect effect = .07, 95% CI [-.01, .16]).

Fifth, maybe the language in the more concrete condition was more memorable (Paivio 1995; Sadoski 2001), which drove the effect. To test this possibility, we used a two-item measure of memorability of the employee's language (memorable, easily remembered; $r = .75$). Memorability, however, also did not mediate the effect of concreteness (indirect effect = .02, 95% CI [-.01, .07]).

Discussion

Study 3 provides direct causal evidence that concrete language increases customer satisfaction. Participants were more satisfied, and more willing to purchase from the firm in the future, when the employee used more concrete language.

Further, Study 3 provides initial evidence for the process underlying this effect. Linguistic concreteness increases customer satisfaction because it makes customers think the employee is listening.

Finally, Study 3 casts doubt on a number of alternative explanations including mimicry, fluency, factual truth, familiarity or typicality, and memorability.

STUDY 4: MULTIPLE LEVELS OF CONCRETENESS

Study 3 provides causal evidence of linguistic concreteness' effect, but one could argue that some other factor is driving the results. While the mediation results casts doubt on this possibility, to further demonstrate its causal impact, Study 4 uses multiple levels of concreteness.

Linguistic concreteness can vary in different ways. Employees might speak more concretely by using more concrete words to describe something of interest (e.g., "t-shirt" instead of "top," or "top" instead of "that"), adding a word to make that thing more vivid (e.g., "grey t-shirt"), or describing a process in a more tangible way (e.g., "search" instead of "look"). We examine a series of such subtle manipulations, each slightly increasing concreteness, and measure the subsequent impact on customer satisfaction and willingness to purchase.

Method

Participants (N = 481; MTurk) imagined shopping at a clothing store and were randomly assigned to one of six between-subject conditions (N = 78-85 per condition). They liked a t-shirt, but could not find the color they wanted, so they asked an employee for help.

The only difference between conditions was the concreteness of the employee's reply (Table 3). The changes are as simple as going from *look* to *search* (conditions 1 vs. 2) from *that* to

that top (2 vs. 3), *top* to *t-shirt* (3 vs. 4), or making the t-shirt more concrete by saying its color (4 vs. 5).

TABLE 3: STUDY 4 EXPERIMENT CONDITIONS

		Concreteness Means	
Condition	Employee reply	Manip. Check	MRC
1	"I'll go look for that"	4.77	295
2	"I'll go search for that"	5.00	298
3	"I'll go search for that top"	5.15	328
4	"I'll go search for that t-shirt"	5.77	353
5	"I'll go look for that t-shirt in grey"	6.01	366
6	"I'll go search for that t-shirt in grey"	6.09	368

Then, participants completed the satisfaction and willingness to purchase items from Study 3 (α = .88).

To test the underlying process, they completed the two-item measure of agent listening from Study 3 (r = .72).

Finally, as a manipulation check, all participants completed the perceived concreteness measure from the Study 3 pre-test. As expected, effects coding for the linear sequence of six conditions for omnibus analysis (i.e., -3, -2, -1, 1, 2, 3) confirmed that participants viewed the language as increasing in concreteness over the six conditions (see Table 3 for means, b = .24, SE = .03, t = 7.93, p < .001). Further, using MRC scores, as in Studies 1 and 2, shows the same pattern (b = 13.63, SE = .13, t = 103.66, p < .001). We used OLS regression and effects coding for the linear sequence of six conditions for omnibus analysis.

Results

Customer Satisfaction. Consistent with the first three studies, using more concrete language increased customer satisfaction and willingness to purchase (b = .10, SE = .02, t = 4.78, p < .001). As shown in Figure 1, compared to when employees used less concrete language (e.g., "I'll go look for that"), using more concrete language (e.g., "I'll go search for that t-shirt in grey") increased customer satisfaction and willingness to purchase.

FIGURE 1: SUBTLE VARIATIONS IN CONCRETENESS DRIVE
CUSTOMER SATISFACTION AND WILLINGNESS TO PURCHASE
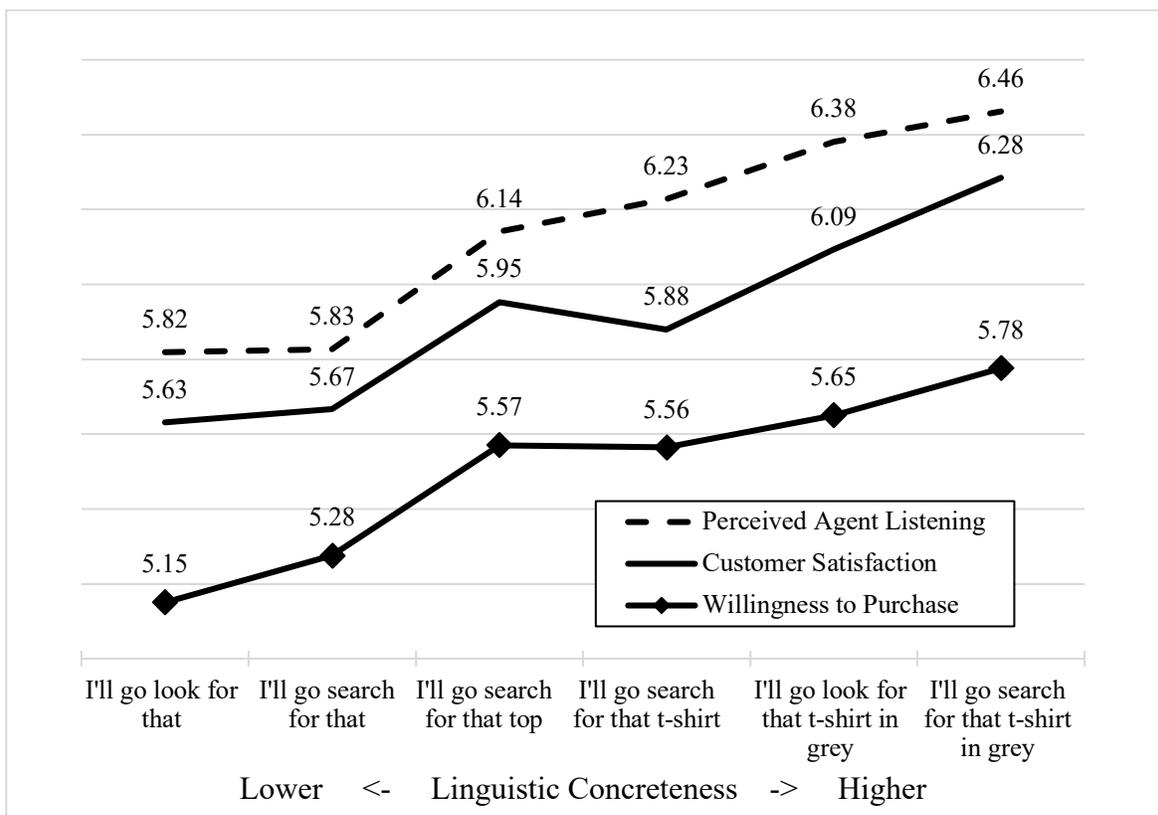
Testing the Process. Further, using more concrete language increased perceptions that the employee was listening (b = .11, SE = .02, t = 5.05, p < .001; Figure 1).

As predicted, mediation analysis (PROCESS model 4; Hayes 2018) confirmed that perceived listening mediated concreteness's effect on customer satisfaction and willingness to purchase (indirect effect = .07, 95% CI [.05, .10]). Using more concrete language made employees seem more attentive to and understanding of the customer's personal needs (b = .11, SE = .02, t = 5.08, p < .001), which increased satisfaction and willingness to purchase (b = .66, SE = .03, t = 23.67, p < .001).

Discussion

Study 4 provides further evidence for the effects of linguistic concreteness and the process underlying these effects. First, consistent with the prior three studies, speaking more concretely increased customer satisfaction and willingness to purchase. Showing these effects over a series of subtle linguistic variations underscores concreteness's causal impact.

Second, as shown in Study 3, these effects were driven by perceived listening. More concrete language made customer service employees seem more attentive to the customer and understanding of their needs, which increased satisfaction and willingness to purchase.

STUDY 5: TESTING THE PROCESS THROUGH MODERATION

Study 5 has three main goals. First, to offer further evidence of the hypothesized process, we manipulate it (i.e., "mediation-via-moderation"; Bullock, Green and Ha 2010; Spencer, Zanna, and Fong 2005). If linguistic concreteness increases customer satisfaction by making it seem like employees are listening, as we suggest, then its effect should only occur when that concreteness suggests someone is actually listening. If, however, a response isn't sufficiently related or relevant to the customer's inquiry, being more concrete shouldn't help (maxim of relation or relevance; Grice 1975).

To test this possibility, in addition to manipulating concreteness, we orthogonally manipulate the relation (or relevance) of the response to the customer. Specifically, in addition to a baseline (high relevance response) condition, we add a condition in which the agent mixes up the things the customer asks for (low relevance response). If our theorizing about listening is correct, more concrete language should increase satisfaction and purchase intent when the agent's response is relevant, but not when it is less relevant.

Second, to further assess robustness, we consider several additional measures of listening, which we discuss later.

Third, we test several alternative explanations. Under conditions of high value/risk or uncertainty, concreteness sometimes increases perceptions of trustworthiness and expertise (Larrimore et al. 2011; Miller et al. 2007; Pan et al. 2018; cf. Toma and D'Angelo 2015 for null effects). While these perceptions seem less likely to matter in more mundane, everyday service encounters (e.g., ordering a pair of pants), one could argue that they might be driving the effect.

Alternatively, rather than through listening, one might wonder whether concreteness influences customer satisfaction through impacting perceived caring, empathy, or social closeness. Importantly, however, these effects are consequences of perceived listening, rather than concreteness itself. When someone attends to what a speaker is saying, or tries to understand them, it should make them seem more caring (de Ruyter and Wetzels 2000; von Essen and Sjoden 1991), empathic (Castleberry et al. 1999; Spiro and Weitz 1990), and may even suggest social closeness (Floyd and Morman 1998). But while using concrete language might make service representatives seem more caring, this occurs because it seemed like they were listening. If the employee didn't seem to be listening, it's unlikely that concrete language would make it seem like they care.

Study 5 tests whether these various factors, rather than listening, explain the effect.

Method

Participants (N = 415; MTurk) were asked to imagine they were shopping online, and had ordered black dress shoes for work, but wanted to add a pair of grey pants to the order and called customer service for help. The study used a 2 (concreteness: low, high) x 2 (relevance: baseline [high], low) between-subjects design.

The baseline condition was similar to Study 3. In the low [*high*] concreteness versions, the employee said "Unfortunately, I can't just add the clothing [*grey pants*] from here. I can cancel the footwear [*black dress shoes*], and you can submit a new order" (MRC score = 345.81 [363.68]).

In the less relevant condition, we simply reversed the position of the pants and the shoes in the agent's response. Specifically, the low [high] concreteness employee said "Unfortunately, I can't just add the footwear [*black dress shoes*] from here. I can cancel the clothing [*grey pants*], and you can submit a new order." Thus the agent mistakes the product the customer needed to add to the order (the pants) for the one they had already ordered (the shoes), suggesting they either failed to attend to or did not understand the customer's request. While the language is equally concrete (or not, depending on concreteness condition), the fact that the agent's response is not completely relevant should moderate the extent to which the agent seems to be listening.

We checked these manipulations in a 2 (concreteness: low, high) x 2 (relevance: baseline [high], low) between subjects pre-test (N = 165). Both the concreteness and relevance manipulations were supported (see Web Appendix).

Next, we measured the dependent variable, using the same satisfaction and intention items from Studies 3 and 4 (α = .95).

To test the mediating role of listening, in addition to the measures from Studies 3 and 4

(i.e., agent attention and understanding, $r = .70$), we captured measures to further assess

robustness. First, we used two items from de Ruyter and Wetzels (2000) said to capture

listening's attention and understanding components ("The agent made an attentive impression,"

"The agent attempted to understand what I was saying"; $r = .72$). Second, we collected an item

intended to capture the signaling consequence of listening, rather than listening itself, from de

Ruyter and Wetzels (i.e., responsiveness; "The agent recognized what I needed").[10] Third, we

included an explicit measure of employee listening ("The agent was listening to me"). These six

listening items all formed a single component (all loadings > .82) in exploratory factor analysis

(Principal Components Analysis) so we combine them into a single index ($\alpha = .95$). Results are

the same if we use our original two-item measure *(r = .72)*, or the mean of four items measuring

attention and understanding ($\alpha = .92$).

Finally, we collected 14 additional items from prior research to test whether a variety of

alternative explanations (e.g., caring, empathy, social closeness, trustworthiness, or expertise) can

explain the effects. We also captured measures of perceived effort and helpfulness.[11] See the Web

Appendix for items and reliabilities.

Results

Customer Satisfaction. A main effect of relevance ($F(1, 411) = 13.72, p < .001, \eta_p^2 = .032$),

was qualified by the predicted concreteness by relevance interaction ($F(1, 411) = 5.95, p = .015,$

$\eta_p^2 = .014$). As in our prior studies, in the baseline condition, concreteness enhanced customer

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[10] As noted earlier, we only use select items from de Ruyter and Wetzels' (2000) larger scale because other items in it and similar listening scales (e.g., Castleberry et al. 1999) measure specific behaviors that capture what listeners "do" (e.g., maintain eye contact, don't interrupt, use full sentences, ask questions) rather than what listening "is" (attention and understanding; Bodie 2012).

[11] We thank a reviewer for this suggestion.

satisfaction and willingness to purchase ($M_{high} = 4.10$, $SE_{high} = 1.63$ vs. $M_{low} = 3.62$, $SE_{low} = 1.59$; $F(1, 411) = 4.42$, $p = .036$, $\eta_p^2 = .022$). When the employee's response was less relevant to the issue at hand, however, the beneficial impact of linguistic concreteness disappeared ($M_{high} = 3.10$, $SE_{high} = 1.58$ vs. $M_{low} = 3.41$, $SE_{low} = 1.83$; $F(1, 411) = 1.82$, $p = .179$, $\eta_p^2 = .008$)

Listening. Similar effects were found on listening. A main effect of relevance ($F(1, 411) = 43.77$, $p < .001$, $\eta_p^2 = .097$), was qualified by the predicted concreteness by relevance interaction ($F(1, 411) = 9.74$, $p = .002$, $\eta_p^2 = .023$). As in prior studies, in the baseline condition, concreteness increased perceived listening ($M_{high} = 4.92$, $SE_{high} = 1.45$ vs. $M_{low} = 4.43$, $SE_{low} = 1.44$; $F(1, 411) = 4.17$, $p = .042$, $\eta_p^2 = .028$). When the response was less relevant, however, concreteness no longer had a beneficial effect ($M_{high} = 3.29$, $SE_{high} = 1.80$ vs. $M_{low} = 3.85$, $SE_{low} = 2.02$; $F(1, 411) = 5.63$, $p = .018$, $\eta_p^2 = .021$).[12]

Further, as predicted, the effect of concreteness on satisfaction was driven by listening. We performed moderated mediation analysis (PROCESS model 8; Hayes 2018), incorporating relevance as a moderator of concreteness's effects on listening (a path) in the main process model. As in prior studies, the effect of concreteness was driven by listening in the baseline conditions (conditional indirect effect = .17, SE = .07, 95% CI [.03, .31]). Concreteness increased perceptions that the employee had listened (b = .24, SE = .12, $t = 2.04$, $p = .042$), which led to enhanced customer satisfaction and willingness to purchase again in the future (b = .71, SE = .03, $t = 21.16$, $p < .001$). When the agent's response was less relevant, however, concreteness had a negative

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[12] While the negative effect of linguistic concreteness in the low relevance response condition is interesting, it should be interpreted with caution. It is possible that concreteness hurts perceived listening when the response is less relevant, but this may also be an artifact of the particular situation used. In this case, concrete language may have drawn attention to the fact that the employee was not actually paying attention to or understanding the request, but this may not always be the case.

effect on perceived listening (b = -.28, SE = .12, t = 2.37, p = .018), leading to a negative sign for the mediation effect (conditional indirect effect = -.20, SE = .10, 95% CI [-.39, -.01]).

   Alternative Explanations. We also tested whether a number of alternative processes (i.e., perceptions of agent caring, two dimensions of empathy, closeness, helpfulness, effort, trustworthiness, and expertise) could explain the results. Scale items and reliabilities are in the Web Appendix.

   To test the explanatory power of these alternatives, we examined whether any of them mediated the effect of concreteness on satisfaction and purchase intent in the baseline condition (PROCESS model 4; Hayes 2018). We removed listening from the model, and due to high collinearity among the items (see correlation matrix in the Web Appendix), ran each potential mediator independently.

   None of the alternatives mediated the effect of concreteness on customer satisfaction (caring indirect effect = .03, SE = .03, 95% CI [-.03, .10], perspective-taking indirect effect = .03, SE = .03, 95% CI [-.02, .11], empathic concern indirect effect = -.01, SE = .03, 95% CI [-.07, .05], social closeness indirect effect = -.05, SE = .04, 95% CI [-.13, .02], helpful indirect effect = .03, SE = .06, 95% CI [-.08, .14], effort indirect effect = .04, SE = .04, 95% CI [-.03, .12], trust indirect effect = .02, SE = .02, 95% CI [-.01, .06], expertise indirect effect = .00, SE = .01, 95% CI [-.03, .02]). This casts doubt on the possibility that caring, perspective taking, empathy, closeness, helpfulness, effort, trustworthiness, or expertise are driving the effects.

   While these results casts doubt on these constructs as alternative processes, we do not mean to suggest that they play no role. Indeed, as suggested earlier, although they cannot explain the effect of concreteness on customer satisfaction and intentions by themselves, many of these may be downstream consequences of listening. When we include each of these constructs in serial mediation models on the b path between listening and the customer outcomes (PROCESS model

6; Hayes 2018), consistent with prior literature, caring, perspective-taking, empathy, social closeness, helpfulness, and effort all function as perceptual *consequences* of listening, helping to explain listening's positive impact on customer satisfaction and willingness to purchase again in the future (caring indirect effect = .08, SE = .04, 95% CI [.01, .16], perspective-taking indirect effect = .08, SE = .03, 95% CI [.02, .15], empathic concern indirect effect = .05, SE = .02, 95% CI [.01, .09], social closeness indirect effect =.06, SE = .03, 95% CI [.01, .11], helpful indirect effect = .15, SE = .06, 95% CI [.04, .28], effort indirect effect = .09, SE = .04, 95% CI [.02, .18]). Trust and expertise were not supported as downstream consequences of listening (trust indirect effect = .03, SE = .02, 95% CI [-.01. .08]; expertise indirect effect = .02, SE = .02, 95% CI [-.02, .07]).

Discussion

Study 5 underscores the effect of linguistic concreteness and the process driving this effect. First, consistent with the prior four studies, using more concrete language boosted customer satisfaction and willingness to purchase.

Second, the results further reinforce the important role of perceived listening in these effects. As hypothesized, concrete language only increased satisfaction and purchase when the agent's response was relevant to the customer's needs. When the agent used concrete language in a way that suggested they were not actually listening, concreteness no longer had the same benefit. Keeping the actual words used constant across the baseline (relevant) and low relevance response conditions helps cast doubt on alternative explanations.

Third, ancillary analyses cast doubt on the notion that perceived caring, perspective-taking, empathic concern, social closeness, helpfulness, effort, trustworthiness, or expertise can explain the effects. We do not propose that some of these processes play no role, but, as suggested by the literature and our results, rather than alternative explanations, some of these (i.e., caring,

perspective-taking, empathic concern, and social closeness) are downstream *consequences* of listening. Rather than explaining the effect of concreteness on satisfaction, they help explain why perceived listening increases satisfaction and purchase intentions.

Note that an additional study (Study 6, reported in the Web Appendix) provides further evidence of mediation by moderation. Providing alternate cues that a customer service representative *is (*rather than *is not)* listening weakens the benefit of concrete language because the customer already makes that inference.

GENERAL DISCUSSION

Consumers and marketers care a lot about the customer service experience. Consistent with its importance, decades of academic research have examined how broad strategies or specific employee actions like apologies, discounts, and flattery shape consumer attitudes and behaviors. But while we know about some broad strategies and tactics that may be effective, less is known about how a simple, more fundamental feature of social interactions—the words employees use when speaking to customers—might enhance the customer experience.

The present research helps to address this gap. First, a combination of field data and controlled experiments demonstrate that speaking concretely boosts customer attitudes towards the agent, purchase intentions, and actual downstream purchases. Text analysis of over 1,000 customer service interactions finds that customers are more satisfied (Study 1) and purchase more (Study 2) after interacting with service employees that use more concrete language. Manipulating concreteness experimentally (Studies 3-5) provides more direct causal evidence of its impact. Using concrete language boosts customer satisfaction and willingness to purchase (Studies 3-5), even over a series of six variations in concreteness within the same short utterance (Study 4).

Notably, subtle changes in concreteness were enough to produce these effects—as little as one changed or added word enhanced consumer attitudes and intentions.

Second, using both mediation and moderation, the results highlight the role of listening in driving these effects. Speaking more concretely led participants to perceive employees as more attentive to and understanding of their needs, which, in turn, mediated the effect of concrete language on consumer attitudes and intentions (Studies 3-5). Further, providing conversational evidence that the employee was not attending to them (Study 5) moderated the effect.[13]

Third, the studies cast doubt on numerous alternative explanations. The effects persisted in the face of over 50 controls for customer and employee observables including demographics, tenure or history, language, and other interaction-specific features that might otherwise explain these outcomes. Experimental evidence showed that processing fluency, mimicry, truth perceptions, familiarity, recall, perceived trustworthiness and expertise all have trouble explaining the relationship between concreteness and customer satisfaction.

Fourth, ancillary results help explain why perceptions that an agent is listening increases customer satisfaction (Study 5). Employees who seem to listen are seen as more caring, empathetic, helpful, and hard-working. Good listeners also seem more socially close, offering what is to our knowledge a new potential means of communicating psychological distance.

Finally, the fact that the results persist across different communication modalities (i.e., email versus phone) and contexts (different firms, customer requests, issues, and language) speaks to their generalizability. Whether dealing with a problem or searching for a product, speaking or writing more concretely increased customer satisfaction, purchase intentions, and actual purchase

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[13] We present the results of an additional study offering a complementary test of mediation-by-moderation in the Web Appendix (Study 6). Instead of a cue that the employee was *not* attending to them, Study 6 presents a cue that the employee *was* paying attention, attenuating the benefit of the subsequent concrete language cue.

behavior. We also replicated these results in a retail service encounter scenario (see Study 7 in the Web Appendix).

Contributions and Implications

This research makes several contributions. First, we extend research on language and cognition by revealing that concrete language shapes inferences about a speaker's attention and understanding. While prior work has considered why people write or speak more or less concretely based on the distance of the topic (e.g., Fujita et al. 2005; Snefjella and Kuperman 2015), or how someone's attitudes towards a target shape whether they use more or less concrete language to describe that target (e.g., Douglas and Sutton 2006; Schellekens et al. 2012), the present research reveals that concreteness can signal not only a speaker's attitudes, but also their attention (i.e., whether they are listening). A speaker's concreteness generates inferences that they are attending to and understanding the topics raised by a conversational partner. This work contributes to the growing literature examining the importance of subtle linguistic devices on information processing, perception, and persuasion (Pogacar et al. 2018).

Second, from a methodological perspective, using MRC and related linguistic lexicons and text analysis methods is a non-standard (Inman et al. 2018) or boundary-spanning approach that can help enrich consumer research (Berger et al. 2020; Moorman et al. 2019). Prior social science research on concrete language often applies the linguistic category model (LCM; Semin and Fiedler 1988). The LCM operationalizes concreteness as a four-level typology starting with three verb types of increasing abstractness (descriptive action verbs, e.g., "Starbucks *pours* coffee," interpretative action verbs, e.g., "Starbucks *makes* coffee", and state verbs, e.g. "Starbucks *has* coffee") followed by a "most abstract" level involving adjectives ("Starbucks has *great* coffee"). Studies in this paradigm present participants with variations on a single idea (e.g., about Starbucks

coffee) across the four levels, and observe participant's attitudes towards these statements, the object, or the speaker (e.g., Schellekens et al. 2010, 2012; Semin and Fiedler 1988).

While this approach has shed light on important linguistic biases and persuasive effects, it has clear limits. The LCM ignores concreteness variation within each of its levels. Some descriptive actions (e.g., *pouring* coffee), for example, may be more or less concrete than others (e.g., *grinding* or *roasting* coffee), yet the LCM treats all these verbs as the same. What's more, rather than being more abstract, some adjectives (e.g., *brown*, *steaming*) may describe things more concretely than some verbs (e.g., *create, produce*). Consequently, focusing on part of speech categories, rather than on the level of words, ignores potentially important variation. Starbucks could find, for example, that speaking concretely matters more when talking about in-store processes (e.g., those executed by the barista, such as *grinding* the beans or *tamping* the grounds) than those that happen far from the store (e.g., *picking* or *roasting* the beans).

There are other issues as well. The LCM excludes words like nouns, which themselves vary in concreteness (e.g., Starbucks makes *coffee* vs. *beverages* vs. *drinks*). Further, the same utterance may seem more abstract when it describes the target using nouns (Starbucks is a *success*) rather than adjectives (Starbucks is *successful*), suggesting a potential "fifth level" of concreteness overlooked by the LCM. This argument is supported by evidence that a word stem used as a noun may describe people more concretely than the same stem as an adjective (e.g., "She's an athlete" vs. "She's athletic"; Carnaghi et al. 2008). Thus, Starbucks might find advertisements that say "Starbucks is a success" are more effective than those that say "Starbucks is successful."

By using the large, machine-readable MRC concreteness lexicon and text analysis methods from computational linguistics, scholars can now examine linguistic concreteness in greater breadth (more parts of speech) and depth (over 85,000 scored words) than ever before. While text analysis is becoming more prevalent in consumer research (e.g., Berger and Packard 2018;

Humphreys and Wang 2018; Packard and Berger 2017), the present research offers a small step towards understanding linguistic concreteness, and psychological functions of language more broadly.

Third, these results have clear implications for improving the customer experience. American companies spend over a trillion dollars a year recruiting and training employees to deliver a great experience (Cespedes and Wallace 2017; Morgan 2017). Most frontline employees are trained to be knowledgeable about their company's offering, give help, and "show they care" through a variety of exemplar actions (e.g., apologies, asking questions; Buttle 1996; Zeithaml, Berry, and Parasuraman 1996). Many firms even train employees to speak a certain way or use specific phrases (Bacal 2011; Chen 2011).

However, the field appears largely unaware of the benefit of concrete language. A review of the customer service literature and correspondence with customer service directors at three firms (an airline, a bricks and mortar retailer, and an online retailer) suggested no usage of this idea. This perspective is corroborated by a survey we conducted with people who have been customer service managers (N = 209) or employees (N = 100; MTurk). While almost all reported having received or given training on how to speak to customers (97.1% of managers / 94.0% of employees), and a majority trained on specific phrases or words to use or avoid (68.9% / 66.0%), none (0%) reported they had been trained to speak concretely (unaided recall). When subsequently prompted with "speak using concrete words" as one of 10 key customer service principals, a strong majority (82.8% / 80.9%) recalled eight items commonly described as positive customer service principals (e.g., "ask questions," "apologize," "speak clearly"), but a much smaller percentage suggested that using concrete words was part of their training (28.8% / 38.8%). Further, this number was similar to a bogus item included to check for false recall ("talk quietly"; 32.2% / 17.3%) suggesting that a much smaller percentage were actually given such instructions.

The present research suggests that just by using more concrete language (e.g., *t-shirt* rather than *top* or *that*), employees can demonstrate that they are listening to the customer's needs and interests. Rather than saying "That will be coming right up" or "Your pants are right over here", employees should explicitly mention the conversation's subject matter, instead saying "One scoop of Chunky Monkey coming right up" or "Your grey slacks are right over here." Similarly, when taking action on the customer's behalf, a waiter might say, "I'll talk to the chef about your nut allergy" rather than "I'll tell them about your issue."

This relatively subtle approach to signaling attention and understanding may be particularly valuable given consumers often assume employees are trying to manipulate them (i.e., "schemer schema", Friestad and Wright 1994). Generalized suspicion towards employee actions may even lead one of the central language tactics taught to firm employees—the apology—to backfire if not used carefully (Marinova et al. 2018; Wooten 2009). In comparison, using more concrete language seems less likely to backfire. It is unlikely to receive as much conscious attention and, even if it is consciously processed, may be less likely to cue concerns as it seems unlikely to be seen as intended to flatter, ingratiate, or persuade.

Encouraging employees to speak concretely could also help improve *actual* employee listening. First, to be able to talk about the concrete, specific interests of the customer, employees would have to attend to the customer's words more carefully. As such, by asking employees to use more concrete language in referring to the customer's interests, they should naturally be more attentive and understanding. Second, work on behavioral priming under the LCM suggests that exposure to concrete language can produce a stronger focus on specific, context-dependent features of a decision or task (Malkoc, Zauberman, and Bettman 2010). While it may be difficult for employees to pay attention to individual customers over the long hours of a frontline shift, speaking concretely should help encourage them to cognitively "tune in" to the specifics of the

present situation rather than just going through the motions. Additional examples for managers are

offered in Table 4.

TABLE 4: EXAMPLES OF SPEAKING LESS VS. MORE
CONCRETELY IN CUSTOMER SERVICE

	Less Concrete (Worse)	More Concrete (Better)	Why?
What (adjectives, pronouns, nouns)	Those **pants** are a great choice.	Those **blue jeans** are a great choice.	Saying **blue jeans** should seem more detailed and context-specific than **pants**.
	You'll receive your **refund** shortly.	You'll receive your **money** back shortly.	Receiving **money** should seem more tangible and "real" than a **refund.**
	Would you like **anything** else?	Would you like **coffee** or **tea**?	**Coffee** and **tea** should seem more specific and tangible than **anything.**
How (adverbs, verbs)	Our pie is **really** good.	Our pie is **mouth-wateringly** good.	**Mouthwateringly** should seem more vivid and imaginable than **really**.
	We can **get** that room for you.	We can **grab** that room for you.	**Grabbing** something should seem more tangible and "real" than **getting** it.
	I can try to **solve** that engine issue.	I can try to **fix** that engine issue.	**Fixing** something should seem more perceptible and imaginable than **solving** it.

Linguistic concreteness could even be measured to evaluate employees. As part of

employee assessment and development, text analysis can be used to evaluate employee

concreteness in relation to other important language features (e.g., negativity, Ordenes et al. 2014;

pronouns, Packard et al. 2018). Given most firms record service calls and maintain databases of

text interactions, transcribing and analyzing frontline employee language could be done at each point in the customer service experience.

Limitations and Future Research

This work also suggests some directions for future research. One interesting question is whether the effects of concreteness are moderated by parts of speech (e.g., nouns, verbs, and adjectives). Concrete nouns and adjectives may lead consumers to infer that the employee is focused on objects that are relevant to them personally, while more concrete verbs could signal the employee's attention to important actions (e.g., shipping, providing physical assistance).

To begin to consider this question, we separately examined the relationship between concreteness and customer satisfaction (Study 1) and expenditures (Study 2) for nouns, verbs, and adjectives using part of speech tagging. In Study 1, nouns ($b = .004$, $SE = .002$, $t = 1.76$, $p = .080$) and adjectives ($b = .005$, $SE = .002$, $t = 1.99$, $p = .048$) but not verbs ($b = .002$, $SE = .003$, $t = .51$, $p = .611$) were independently linked to customer satisfaction. In Study 2, nouns ($b = .37$, $SE = .16$, $t = 2.31$, $p = .021$) and verbs ($b = .66$, $SE = .24$, $t = 2.68$, $p = .008$) but not adjectives ($b = .17$, $SE = .11$, $t = 1.45$, $p = .147$) were associated with increased customer spending.

We attempted a similar analysis in Study 4, the only study that offered sufficient variation in specific parts of speech across experimental conditions. Although there was no significant difference between Study 4 conditions in verb concreteness,[14] there were differences in perceived concreteness for nouns (*that* vs. *that t-shirt*; conditions 2 vs. 4; $F(1, 473) = 11.57$, $p < .001$, $\eta_p^2 = .076$) and adjectives (*t-shirt* vs. *t-shirt in grey*; conditions 4 vs. 6; $F(1, 473) = 2.81$, $p = .094$, $\eta_p^2 = .018$). Further, both these differences were linked to increased satisfaction and willingness to

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[14] The verb concreteness contrast (conditions 1 & 5 vs. 2 & 6) failed to shift satisfaction and willingness to purchase significantly ($F(1, 473) = 1.26$, $p = .26$), but this may be due to a weaker shift in perceived concreteness ($F(1, 473) = .77$, $p = .38$) between the particular verbs we chose to manipulate in the stimuli (*look* vs. *search*). See Table 3.

purchase (noun contrast conditions 2 vs. 4, $F(1, 473) = 2.84$, $p = .093$, $\eta_p^2 = .018$; adjective

contrast conditions 4 vs. 6, $F(1, 473) = 4.10$, $p = .043$, $\eta_p^2 = .032$).

We did not design these studies to test the causal impacts of different parts of speech, so

these results should be interpreted with caution. They do, however, provide some suggestion that

nouns and potentially adjectives may more strongly drive effects of linguistic concreteness. Given

these words' respective linguistic roles, it could be that demonstrating the employee's attention

and understanding of the topic of discussion (nouns, adjectives) matters more than potential

behavioral responses; that is, doing things (verbs) on behalf of customers. The concreteness of

quantities (e.g., "many packages" vs. "eleven packages"; Pan et al. 2017) could also be important.

Future research should consider how different parts of speech and other language features shape

concreteness' impact.

It is also important to remember that these relationships may depend on the context in

which they were observed. Verbs could be more important than nouns when customers are

focused on getting employees to take action on their behalf. If a customer has taken a product back

to a store for a return, whether the employee will *take*, *accept*, *handle* or *process* the return (verbs)

may be more important than focusing on the product (noun). Future research could even examine

when concreteness matters more within each part of speech. Take the words we use for people,

places, or things (i.e., common and proper nouns). While our approach only manipulates or

measures common nouns, it seems likely that proper nouns would be beneficial over common

nouns when they refer to the specific places or objects relevant to the customer (e.g., "New York

City" rather than "the city", "Nike shoes" rather than "athletic shoes").

Future research might also consider when and why different parts of speech or specific

words produce the outcomes observed here. Research at the part of speech level could also inform

other social and psychological phenomena linked to concrete language under the LCM and related

paradigms (e.g., cognitive biases and persuasion). More broadly, analyzing linguistic devices at the part of speech level may represent a rich opportunity to expand understanding on how language is processed and persuades (Pogacar et al. 2018).

It would also be interesting to explore customer interactions initiated by the employee. With the possible exception of Study 4, in which a store employee approached a customer, our field data and experimental interactions were started by the customer. Future research might consider whether these effects hold in situations where the customer might not have salient needs or wants to begin with, such as in door-to-door sales visits, cold-calling by telemarketers, or mall intercepts. In these situations, employee concreteness might make a potential need or want more "real" and tangible to the consumer, increasing their own attention to the conversation.

Finally, future marketing research may fruitfully examine other verbal, nonverbal or behavioral cues that signal listening. Things like eye contact, head nods, and assent language such as "uh-huh" and "ok" can suggest someone is paying attention (Gardiner 1971) and asking open-ended questions can signal one is trying to gain deeper understanding (Huang et al. 2017). Alternatively, it could be beneficial to simply take more pauses while speaking (Berger 2020; Murphy 2020). Such breaks can signal someone truly wants to hear what their conversation partner has to say.

In conclusion, the current research demonstrates that subtle variations in how service employees talk to customers has important consequences for consumer attitudes, intentions and purchases. In doing so, this work deepens our understanding of language effects in the marketplace, and its effects on consumer behavior more broadly.

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