

Eliciting assent: Why mid-speech pauses enhance one's perceived competence

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Abstract

Conversational pauses are generally assumed to be detrimental to communicators' prospects of projecting competence. However, because prior research on person perception has tended to focus on the effect of pauses in one-way conversations, it is unclear how they might impact person perception in two-way conversations involving back-and-forth communication. In an archival analysis of 189 customer calls to the customer service line of a large national retailer, we find that customer service agents who pause more frequently during conversational turns are perceived as *more* helpful than those who pause less frequently. An analysis at the level of individual conversational turns revealed that this effect was driven by frequent mid-turn pauses eliciting more assents (e.g., "OK," "yes," "uh-huh") from customers, which positively predicted their evaluations of customer service agents. These findings highlight the functional value of conversational pauses and the need for further research on the role of pauses in two-way conversations.

Keywords: pauses, competence, assents, conversation

Eliciting Assent: Why Mid-Speech Pauses Enhance One's Perceived Competence

Pauses are generally assumed to be detrimental to one's prospects of projecting competence. Because people frequently use pauses as a cue to communicators' ability to retrieve information or knowledge from memory (Smith & Clark, 1991, 1993), they typically perceive that communicators who pause frequently are in a state of uncertainty and lack domain expertise (Aronovovitch, 1976; Kimble & Seidel, 1991; Scherer, London, & Wolf, 1973). Consistent with this assertion, work on social influence has tended to find that speakers who speak at a slower rate are perceived as less credible and persuasive than those who speak at a faster rate (Miller, Beaber, Maruyama, Beaber, & Vallone, 1976; Moore, Hausknecht, & Thamodaran, 1986; Smith & Shaffer, 1991, 1995).

However, social psychologists examining the role of pauses in person perception have only considered contexts involving one-way conversations and neglected to consider the functional role of conversational pauses in two-way conversations. Because prior work on pauses and person perception have only focused on contexts like persuasive speeches to an audience (e.g., Aronovitch, 1976; Scherer et al., 1973) or listening to others' prerecorded responses to trivia questions (e.g., Kimble & Seidel, 1991), it is unclear how pauses impact person perception in two-way conversations where a conversational partner can interject. The current research considers this question.

Although the social psychology literature on person perception has largely ignored the role of conversational pauses, psycholinguists have long considered the functional role of pauses in conversation. While pauses can serve a number of functions, including to indicate one's need to retrieve information from memory (Smith & Clark, 1991, 1993), they are also frequently used as a means of giving a conversational partner time to process information (Jaffe & Feldsetein,

1970) and to indicate one's desire for a conversational partner to either initiate a new conversational turn or indicate agreement (Heldner & Edlund, 2010; Walker & Trimboli, 1982). However, while psycholinguistics have considered the role of pauses in conversation, they have largely ignored how conversational pauses impact person perception.

We argue that conversational pauses are often used as a normative signal of one's desire for a conversational partner to indicate that he or she follows the argument and, as a result, tend to elicit assents in conversation (e.g., "OK," "yes," "uh-huh"). Because conversational pauses are likely to elicit assents from conversational partners, they should cause conversational partners to perceive that a focal communicator is more competent.

People are accustomed to using assents as a means of indicating agreement (Tausczik & Pennebaker, 2010). As a consequence, we suggest that people who assent more frequently in response to a conversational partner should more strongly perceive that they agree with the conversational partner's arguments and suggestions. While prior research has yet to test the link between explicit conversational assents and person perception, some work suggests that the mere act of assenting might cause people to develop more positive implicit attitudes towards conversational partners. For example, one well-established finding in the social influence literature is that nodding one's head in response to a message elicits cognitive associations of agreement (Briñol & Petty, 2003; Wells & Petty, 1980). As a consequence, people tend to view others' messages more favorably when they happen to be incidentally nodding their head up and down than they do when keeping their head still. In a similar vein, we raise the possibility that conversational partners who assent more frequently in conversation should perceive a focal speaker to make more reasonable suggestions, and thus, to be more competent.

Using an archival analysis of actual customer calls to the customer service line of a large retailer, we test whether agents who pause more frequently are seen as more helpful by customers. Further, we examine whether this effect might be mediated by agent pauses eliciting assents from customers.

While our focus is on agent pauses, one could worry any observed effects were driven by what agents said (i.e., the linguistic content of the calls) rather than how they delivered those words (i.e., the paralinguistic features). Consequently, we control for linguistic content to test whether it can explain the results.

Method

Data. We worked with a large online retailer to obtain a sample of 189 customer service calls. Each call involved a separate customer interacting with one of 129 different customer service agents. The average call was 5.09 minutes in length ($SD = 3.64$ minutes).

To measure agent pauses, we started by breaking up each call into its component conversational turns. A conversational turn is defined as the period over which one person is speaking. During one interaction in our dataset, for example, a customer says “I discovered that there’s a pressure point. That presses on a certain spot on my foot.” The agent then says, “Uh huh” and the customer then continues his or her train of thought, saying: “And so I looked in there. There’s this big folded over lumpy thing. I think it’s a tongue. And so I either return the shoes or get a replacement.” This represents three turns. Two by the customer and one by the agent.

This is just part of a larger conversation, but to analyze the effect of agents’ pausing, it was necessary to separate each conversational turn by both the customer and the agent. To do so,

a team of research assistants broke up each call's audio file into individual files corresponding to each conversational turn. Whether someone spoke for multiple sentences, or just a single word, as long as it was audible, it was counted as a separate turn.

Finally, to capture the independent variable (i.e., how often the agent paused per unit of time), we used automated speech analysis (Praat, Boersma & Weenik, 2019). Prior work (Goldman-Eisler, 1968; Oliveira, 2002) defines pauses as “psychologically functional” as long as they are more than 0.3 seconds, so we used the script developed by de Jong and Wempe (2008) to obtain the number of times each agent paused for at least that long across all turns in a call. We then standardized this measure by dividing pause count by how the cumulative length of agents' conversational turn (in seconds) on a given call; this resulted in an independent measure of agent pauses per second of speaking time.

Dependent measure: Agent helpfulness. After their call, each customer completed a brief survey. The first question asked them to assess the agent's helpfulness on a scale ranging from 1 (not at all helpful) to 4 (very helpful). This served as our dependent variable.

Underlying Process: Customer assents. To measure the hypothesized underlying process (i.e., customer assents), we used automated text analysis. The audio files were transcribed by a transcription service and Linguistic Inquiry and Word Count software (LIWC; Pennebaker, Booth, Boyd, & Francis, 2015) was used to extract the percent of assent-based words in each conversational turns. To focus on customer assents in response to agents, as opposed to assent words used during customer conversational turns (e.g., “they fit okay”), we counted the number of conversational turns in which a customer did nothing but assent (i.e., 100% of the turn was an assent). That said, results also hold using alternative thresholds of customer assents, whether assent was defined as at least one assent word in the conversational

turn, 25% of words, 50% of words, or 75% of words (see SOM). Given that longer calls should have more opportunities for assents, we control for that in our analyses.

Results

Some agents were involved in more than one call, so we used the “lme” command in R to conduct hierarchical linear regression models that nest phone calls within agents using an agent-specific random intercept. We followed these analyses up with a multilevel mediation analysis (Krull & MacKinnon, 2001). All analyses reported below are summarized in Table 1 (end of results section).

Effect of agent pauses on agent helpfulness. When agents paused more frequently, they were seen as more helpful, $z = 2.39, p = .017$ (Model 1).

Robustness Checks. While this preliminary relationship is consistent with our theorizing, one could worry it was driven by a host of other factors. Consequently, we control for a variety of other aspects of the call, agent, and customer to test whether they might be driving the results.

Call characteristics. There are more opportunities to pause during longer calls, for example, and maybe customers tend to find agents more helpful after calls that take a while. Alternatively, there are more opportunities to pause during calls where the agent dominates the conversation, and maybe this makes them seem more helpful. To control for these possibilities, we controlled for the total duration of both agents’ and customers’ speaking turns (*agent turn time* and *customer turn time*).

One might also wonder whether the results were driven by the nature of the call. Maybe agents pause more on types of calls where they are more helpful, and thus it is call type rather than pausing that is driving the effect. We controlled for this possibility in three ways. First, the

retailer classifies calls into one of five categories (i.e., account, gift card, order, product, return, and shipping). For each category, we created a dummy variable equal to “1” if a phone call was classified in that particular category (*call reasons*).

Second, to ensure that the severity of the call was not driving the effect, we had two research assistants code for the severity of the issue discussed by the customer (*issue severity*: insert alpha or some other reliability statistic).

Third, to provide more fine-grained controls, we used topic modeling. Latent Dirichlet allocation (LDA; Blei, 2012) measures the extent to which words co-occur within and across texts (i.e., agent and customer language) and identifies a set of latent topics. This approach yielded a set of five latent topics and assigned each call a score from zero to one based on how much that topic was discussed in that call (the scores for all five topics on a single call summed to one). We included the degree to which each call included each topic as controls (*call topics*).

Agent characteristics. While the prior controls focused on the nature of the call itself, one could still be worried that certain aspects of the agent might be driving the effects. Maybe female or male agents are seen as more helpful, for example, and also pause more. Alternatively, maybe more experienced agents use more pauses and do something else that makes them seem more helpful. To control for these possibilities, we controlled for agent gender (*female agent*: 0 = male, 1 = female) and tenure with the company (*tenure*, in days).

Agent language. We also controlled for the language the agent used. One might wonder whether certain agents ask more questions (which could encourage customer assents) and that, rather than pauses is driving the effect. Alternatively, maybe agents that pause more also speak more slowly or use fewer words per sentence, and those aspects are driving the effect.

Consequently, we control for number of questions (*questions*), articulation rate (*art_rate*), and mean words per sentence (*a_wps*).

Customer characteristics. Agents might also tend to pause more when speaking to customers of a certain age, gender, region, or value to the company, and those customers also tend to find agents more helpful. To control for this possibility we controlled for customer gender (*female customer*: 0 = male, 1 = female), *age* (classified by the retailer into the following age category dummies: 18-25, 25-34, 35-44, 45-54, 55+), *region* (classified by the retailer into the following region dummies: East, West, Midwest, South, Other), and prior amount purchased with the company (*lifetime purchases*).

Even including all these controls, however, agents that paused more were still seen as more helpful, $z = 2.70$, $p = .007$ (Model 4).

Role of customer assents in driving the effects. The analyses so far cast doubt on a range of alternative explanations, but to provide deeper insight into the process, we examine whether the effects are driven by customer assents.

As predicted, customers assented more when agents paused more frequently, $z = 8.57$, $p < .001$ (Model 2), and this effect persisted even including the various controls, $z = 4.68$, $p < .001$ (Model 5).

Further, customer assent mediates the impact of agent pause frequency on agent helpfulness. Customer assent predicted agent helpfulness independently of agent pause frequency (Model 3: $p < .001$, Model 6: $p = .002$). Further, controlling for customer assent reduced the effect of agent pause frequency on agent helpfulness ratings (Model 3: $p = .99$, Model 6: $p = .089$). Finally, a bootstrap with 5,000 replications on a mediation model including

all controls revealed an indirect effect of agent pause frequency on agent helpfulness ratings through customer assent, $Z = 2.96$, $p = .003$, 95% CI = [.003, .012].

Further support for our theorizing comes from a turn-by-turn analysis. If pausing makes agents seem more helpful because it encourages customer assents, as we have suggested, then it should not just be assents overall, but specifically assents the next turn. That is what we find, as agent pauses per second in one conversational turn (turn t) positively predicted the customer's likelihood of assenting in the subsequent conversational turn (turn $t + 1$), $Z = 2.85$, $p = .004$. In order to provide stronger evidence for the causal direction of this pattern, we also conducted analyses that control for customer assents in the prior conversational turn (turn $t - 1$). Agent pauses continued to predict customer assent in the subsequent turn, controlling for whether the customer assented in the prior turn, $Z = 3.16$, $p = .002$. Further, these results hold in models that incorporate the same controls as the call-level analyses, $Z = 3.30$, $p < .001$.

Taken together, these analyses demonstrate that when agents paused more frequently in one conversational turn, they were more likely to elicit assents from customers in the subsequent conversational turn. Because they elicited more assents from customers than agents who did not pause as frequently, agents who paused more frequently were considered to be more helpful by customers. Our turn-level analyses also demonstrate that the causal direction of this effect runs from agents to customers, as our effects held when controlling for customers' assents in prior conversational turns. This indicates that our findings cannot be accounted for by agents pausing more frequently in response to their noticing that customer was assenting often.

	<u>Base Model (No Controls)</u>						<u>Full Model</u>										
	DV: survey_helpful		DV: c_passent_ct		DV: survey_helpful		DV: survey_helpful		DV: c_passent_ct		DV: survey_helpful						
	b	SE		b	SE		b	SE		b	SE		b	SE		b	SE
IV: a_npausepersec	.007	.003	*	.069	.008	***	.000	.003		.016	.007	*	.068	.020	**	.009	.007
MV: c_passent_ct							.107	.027	***							.095	.028
Controls																	
reason category controls										Yes	Yes	*	Yes	Yes	*	Yes	Yes
a_duration										-.002	.002		-.000	.005		-.002	.002
c_duration										.001	.002		.001	.004		.001	.001
agent_female										-.031	.241		-1.002	.647		.064	.235
female										-.337	.291		.280	.790		-.358	.283
Customer age category controls										Yes	Yes		Yes	Yes	+	Yes	Yes
Customer region category controls										Yes	Yes		Yes	Yes		Yes	Yes
ltv_billed										.000	.000		.000	.000		.000	.000
severity_m										-.176	.131		-.317	.356		-.148	.127
agent_tenure_days										-.000	.000		-.000	.001		-.000	.000
LDA topic probs. (5 topics)										Yes	Yes	*	Yes	Yes		Yes	Yes
Intercept	2.700	.187	***	1.945	.477	***	2.485	.187	***	3.836	1.305	**	2.195	3.636		3.965	1.305
N	189			189			189			189			189			189	

Reason category controls: reas_acct+reas_gc+reas_order+reas_prod+reas_return
Customer region category controls: reg_east+reg_midwest+reg_south+reg_west
Customer age category controls: c_age1825+c_age2534+c_age3544+c_age4554

Discussion

While we focused on the number of pauses, one might wonder whether pause length has an impact. Prior work, however, suggests that as long as pauses cross the threshold of being “just noticeable enough” to be processed by a conversational partner (approximately 0.2-0.3 seconds in length), additional length does not increase the partner’s likelihood of interrupting all that much (Heldner & Edlund, 2010; Jaffe & Feldstein, 1970; Walker & Trimobli, 1982). Indeed, in our context, as long as the pauses are long enough, its not clear why making them even longer should further encourage assents. When we include a control for mean pause length the effect of number of pauses persists ($p = .005$). Further, pause length does not predict helpfulness ratings independently of agent pause count ($p = .29$).

Importantly, our interest is in pauses *within* conversation turns, rather than *between* them. If agents simply paused for a long time after talking, it would almost force customers to respond in order to avoid awkward silences. It also could be possible that any effect where agent pauses elicit assent is a byproduct of agents either using language that tends to elicit assent or their response to subtle audible cues that a customer is about to interrupt them in order to assent (e.g., a deep breath or mouth movement that might not be detected by research assistants or automated speech analysis). Consequently, to ensure we were capturing within turn pauses, we had research assistants omit interturn pauses by cutting each turn as soon as the speaker stopped speaking. This ensured that pauses at the end of the speaker’s conversational turn were omitted from analyses and that any measure of pauses reflected agents’ propensity to use pauses *during* speaking turns, as opposed to between speaking turns.

General Discussion

In an analysis of naturalistic conversations between customer service agents and customers, we find that agents who pause more frequently are considered to be more competent (i.e., helpful) than those who pause less frequently. Ultimately, these effects were driven by agents eliciting more assents from customers when they paused more frequently. An analysis at the level of individual conversational turns revealed that this pattern was driven by agent pauses in one conversational turn increasing a customer's likelihood of assenting in the subsequent conversational turn.

Taken together, these findings speak to the power of conversational pauses in person perception. Although pauses are often perceived as harmful to one's prospects of projecting competence (e.g., Aronovitch, 1976; Kimble & Seidel, 1991; Scherer et al., 1973), this work has tended to focus on one-way conversations. Because prior research has largely ignored the dynamics of naturalistic two-way conversations, it has not adequately tested the utility of pauses in conversation. Ultimately, we demonstrate that because they elicit normative responses of agreement (i.e., assenting), speakers who frequently insert brief pauses into their speech are perceived as more competent.