



# Certainty in Language Increases Consumer Engagement on Social Media

Todd Pezzuti <sup>a,\*</sup> & James M. Leonhardt <sup>b</sup> & Caleb Warren <sup>c</sup>

<sup>a</sup> School of Business, Adolfo Ibáñez University, Av. Padre Hurtado 750, Viña del Mar 2562340, Chile

<sup>b</sup> College of Business, University of Nevada, Reno, 11664 N. Virginia St., Reno, NV 89557, USA

<sup>c</sup> Eller College of Management, University of Arizona, 1130 E. Helen St., McClelland Hall 320, P.O. Box 210108, Tucson, AZ 85721, USA

## Abstract

Brands regularly attempt to stimulate consumer engagement by posting messages on social media platforms (e.g., Facebook), but their messages are often ignored. How can managers write social media messages that engage consumers? The present research sheds light on how the language of brand messages influences consumer engagement. Text analyses of brand messages posted on Facebook and Twitter shows that brand messages that include words that express certainty (e.g., always, everything, forever) are associated with higher levels of consumer engagement (e.g., likes, comments, shares/retweets). The results of two controlled experiments demonstrate that messages expressing certainty increase engagement by influencing how consumers perceive brands. Specifically, expressing certainty makes brands seem more powerful, and perceptions of power exert a positive effect on engagement. In addition, the indirect effect of certainty on consumer engagement is stronger (weaker) among consumers with higher (lower) power distance beliefs. These results assist marketing managers by demonstrating how language influences consumer engagement on social media.

© 2020 Direct Marketing Educational Foundation, Inc. dba Marketing EDGE. All rights reserved.

## Introduction

Communicating with consumers through social media is becoming more important as firms shift their focus from traditional marketing channels to digital channels (Batra & Keller, 2016). Similar to traditional marketing channels, social media platforms help firms achieve a wide variety of marketing outcomes, such as increasing brand awareness, influencing brand attitudes, and stimulating word-of-mouth communication and sales (Batra & Keller, 2016). Unlike traditional marketing channels, however, social media platforms are designed to engage users, and thus give brands a way to encourage active responses from consumers (Hollebeek, Glynn, & Brodie, 2014). Facebook and Twitter, for example, allow users to respond to messages posted by brands and to share their messages with other platform users. Although social media platforms are designed to facilitate interactions, engaging consumers on social media remains an ongoing challenge for

firms (CMOSurvey.org, 2016; Content Marketing Institute, 2016).

The content of brand messages on social media influences consumer engagement with brands (Hollebeek & Macky, 2019; Lee, Hosanagar, & Nair, 2018). However, despite the importance of engaging consumers with brand content, research is only just beginning to identify the characteristics of brand messages that drive consumer engagement (Cruz, Leonhardt, & Pezzuti, 2017; Lee et al., 2018; Ordenes et al., 2018). The dearth of research on the topic leaves managers with little guidance on how brand messages can be designed to better engage and connect with customers. This lack of guidance is problematic and likely contributes to managers feeling skeptical about their ability to use social media to achieve their marketing objectives (CMOSurvey.org, 2016; Content Marketing Institute, 2016).

The present research addresses this important managerial problem by identifying a specific, theoretically grounded way that brands can better engage consumers with their social media content: write messages that express certainty. Research on psycholinguistics suggests that when communicators express certainty, they are perceived to be more powerful (Adkins &

\* Corresponding author.

E-mail addresses: [todd.pezzuti@uai.cl](mailto:todd.pezzuti@uai.cl) (T. Pezzuti), [jleonhardt@unr.edu](mailto:jleonhardt@unr.edu) (J.M. Leonhardt), [calebwarren@arizona.edu](mailto:calebwarren@arizona.edu) (C. Warren).

Brashers, 1995; Han & Lind, 2017; Hart & Childers, 2004). Moreover, research also suggests that people are attracted to powerful people and organizations (Billett, Jiang, & Rego, 2014; Bryan, Webster, & Mahaffey, 2011; Herrbach, Mignonac, & Gatignon, 2004). Combining this past research leads to an interesting and novel prediction: when a brand uses words related to certainty in a social media message, consumers perceive the brand to be more powerful, and, consequently, are more likely to engage with the message.

We tested this prediction by analyzing the Facebook and Twitter messages of well-known brands and by conducting controlled, randomized experiments in the lab. The results of the studies reveal that using words related to certainty in social media messages increases consumer engagement with the brand. Moreover, the experiments show that using words related to certainty makes a brand seem more powerful and that perceptions of brand power lead consumers to engage with the brand. The experiments also show that the strength of this process depends on consumers' power distance beliefs. The positive, indirect effect of expressing certainty in social media messages is stronger (weaker) among consumers with higher (lower) power distance beliefs. These results not only contribute to the literature on brand communication, power, and cultural dimensions theory, they also guide managers by revealing how to create content that consumers will like, comment on, and share.

## Literature Review

Marketing executives are spending more and more of their marketing budgets on social media each year. The percent of marketing budgets dedicated to social media is expected to increase from 12% to 20.5% between 2018 and 2023 (CMOSurvey.org, 2016). Firms are spending more on social media because consumers are spending more time on social media, it is easier to target small segments of consumers on social media, and it typically costs less to reach a large number of consumers on social media compared to traditional marketing channels such as television, print, and radio advertising (Arenas-Gaitán, Rondan-Cataluña, & Ramírez-Correa, 2018; Moe & Ratchford, 2018; Wang & Kim, 2017). Another benefit of social media platforms is that they incorporate features that make it easy for consumers to engage with brands.

Consumer engagement on social media refers to interactions between consumers and a brand (Lee et al., 2018). Consumers can interact with brands on social media in a number of ways; for example, they can respond to a brand's message by leaving a comment or they can share the message with members of their network. Firms are increasingly trying to engage consumers because engagement leads to important marketing outcomes, including brand referrals, sales, and profit (Mochon, Johnson, Schwartz, & Ariely, 2018; Nambisan & Baron, 2007; Sawhney, Verona, & Prandelli, 2005).

Research on designing content that engages consumers on social media has only recently begun. Ordenes et al. (2018), for example, found that consumers are more likely to share brand

messages that are expressive (e.g., Happiness is a warm cup of coffee) and that provide objective information (e.g., Alienware 18 now includes Intel's fastest mobile processor). Lee et al. (2018) found that humor and emotion can also drive consumer engagement. Additionally, using second-person pronouns increases the extent that consumers self-reference with message content, thereby increasing the likelihood that they share, like, and comment on brand messages posted on Facebook (Cruz et al., 2017). We extend the literature on identifying content-specific factors associated with consumer engagement on social media by focusing on the expression of certainty in the language of brand messages.

Certainty is defined as “the state of being completely confident or having no doubt about something” (Cambridge, 2020). Thus, certainty refers to a sense of conviction or a general air of confidence. The specific words that a communicator uses in a message express the extent to which the communicator feels certain about the opinion, belief, or idea they are sharing (Corley & Wedeking, 2014; Han & Lind, 2017). Research on certainty in language has identified a dictionary of 113 words that express certainty (Pennebaker, Boyd, Jordan, & Blackburn, 2015; Pennebaker, Chung, Ireland, Gonzales, & Booth, 2007). The dictionary has been validated and is widely used in psycholinguistic research (Boyd & Pennebaker, 2016; Cohen, 2012; Corley & Wedeking, 2014; Proyer & Brauer, 2018; Shields et al., 2013). Words that communicate certainty connote totality and completeness (entire, everywhere, wholly), conviction (commitment, definite, fact, obvious), and permanence (forever, always; Hart & Childers, 2004). Brands can choose words that connote these concepts when communicating with consumers. For example, brands can communicate totality by claiming that a product is suitable for *everyone* and conviction by saying that they have *absolute confidence* in their products. Although the effect of certainty in brand messages has not been studied, previous research has demonstrated a positive relationship between expressing certainty and persuasion. For example, consumers prefer financial advisors that express certainty since certainty makes them seem more knowledgeable about the products and services they provide (Price & Stone, 2004). Certainty also relates to risk perceptions, which refers to judgments about potential losses, in that higher levels of certainty reduce perceptions of risk (Tuu, Olsen, & Linh, 2011).

Using language that communicates certainty also makes a communicator seem more powerful (Adkins & Brashers, 1995; Han & Lind, 2017; Hart & Childers, 2004). Power is the “asymmetric control over valuable resources and outcomes within a specific situation and set of social relationships” (Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008, p. 1,451), and thus involves both control over and independence from others. Because powerful people are free from social constraints, they tend to be more influenced by their own internal states than by situational factors (Keltner, Gruenfeld, & Anderson, 2003; Kraus, Chen, & Keltner, 2011). As a result, power increases confidence in one's opinions and perspectives by increasing people's sensitivity to their personal experiences and feelings (Kraus et al., 2011; See, Morrison, Rothman, &

Soll, 2011). The inward focus associated with power also results in less attention and concern for contradictory views (Goodwin, Gubin, Fiske, & Yzerbyt, 2000). The psychological consequences of power—confidence in one's opinions and perspectives, a disregard for contradictory information, and fewer social constraints—may contribute to the high level of certainty communicated in the language of powerful people.

Creating a sense of power by using words that express certainty on social media might stimulate consumer engagement. Consumers use cues, such as language, to infer how much power or influence a person has over others (Hart & Childers, 2004). Moreover, consumers are generally attracted to powerful people and brands (Billett et al., 2014; Bryan et al., 2011). One reason power is attractive is because it is associated with desirable characteristics such as prestige and status (Magee & Galinsky, 2008). Displays of physical, financial, and social dominance, for example, all tend to increase personal attractiveness (Bryan et al., 2011), which suggests that power and dominance are attractive in general. Brands, like people, similarly engage in behaviors, such as expressing certainty in their messages, to make themselves look more powerful, dominant, and in control of their surroundings. By associating with powerful companies and brands, consumers can increase their own sense of power and status (Goldstein & Hays, 2011), which is generally desirable (Lammers, Stoker, Rink, & Galinsky, 2016). As a result, people prefer to work for and invest in powerful, high status companies (Billett et al., 2014; Herrbach et al., 2004). The positive effect of expressing certainty on perceptions of power and the positive effect that perceived power has on consumers' attraction to people and companies suggests that expressing certainty on social media may increase consumer engagement by attracting consumers to brands and their messages. Based on this logic, the effect of certainty on engagement would be mediated by perceptions of a brand's power. These predictions are captured in our first two hypotheses:

**H1.** Brand messages on social media that express higher levels of certainty will engage consumers more than messages that express lower levels of certainty.

**H2.** The positive effect of certainty on consumer engagement will be mediated by perceived brand power, such that certainty will increase perceived brand power, which, in turn, will increase consumer engagement.

In addition to understanding how expressing certainty in brand messages affects consumer engagement, it is also important for marketers to know which factors amplify or attenuate the process through which certainty affects consumer engagement. One theoretically relevant factor that could moderate how certainty affects consumer engagement is cultural power distance. Power distance, which refers to the extent to which people expect and accept that power is distributed unequally in general, has been shown to predict consumer behavior in various domains (Hofstede, Hofstede, & Minkov, 2010; Roth, 1995; Yun, Park, & Ha, 2008). If messages high in certainty are more engaging because they make the firm seem more powerful, as we hypothesize, then

certain language will likely have a larger effect on consumers who hold stronger power distance beliefs.

Consumers with high power distance beliefs tend to be sensitive to their own sense of power as well as the power of others (Hofstede et al., 2010; Inkeles, 1960; Lenski, 1966). Cultures that are comprised of consumers with high power distance beliefs expect and accept more discrepancies in power and afford more prestige to people who hold power. As a result, people in these cultures actively work to maintain and increase their power (Hofstede et al., 2010). The positive effect of power distance on consumers' sensitivity and pursuit of power influences important marketing outcomes (Kim, 2014; Roth, 1995). For example, brand images based on status tend to be more successful in countries where consumers endorse high power distance; whereas brand images based on the brand's functionality tend to be more successful in countries where consumers endorse low power distance (Roth, 1995). Featuring celebrity endorsers in marketing communication is also more effective among consumers that endorse high power distance (Winterich, Gangwar, & Grewal, 2018). Similarly, we expect that consumers with higher power distance beliefs will be more likely to engage with brands that seem powerful.

In the case of brand messages on social media, we predict that brand messages that express certainty make the brand seem more powerful, which makes consumers more likely to engage with the brand. However, the extent that consumers endorse power distance should moderate the effect of brand power on consumer engagement since consumers with higher power distance beliefs tend to place more importance on power (Hofstede et al., 2010). Because consumers with higher power distance beliefs place more importance on power, we predict that the positive effect of brand power on consumer engagement is stronger (weaker) among consumers with higher (lower) power distance beliefs. The power distance beliefs of consumers should therefore also influence the indirect effect of expressing certainty on consumer engagement by strengthening the effect of perceived brand power on consumer engagement. The moderating effect of power distance on the indirect effect of expressing certainty on consumer engagement (through perceptions of brand power) is illustrated in Fig. 1 and summarized in the following hypothesis:

**H3.** Consumers who are relatively higher in power distance beliefs will be more likely to engage with messages that use certain language, and the indirect effect of certainty on engagement will be stronger for consumers higher in power

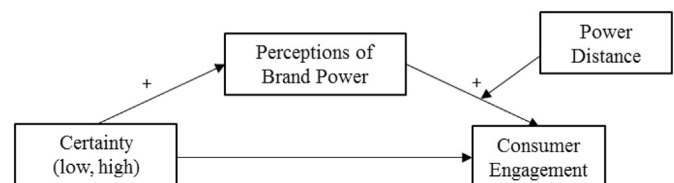


Fig. 1. The conceptual model of how certainty in brand messages affects consumer engagement. The effect of perceptions of brand power on consumer engagement is stronger (weaker) among consumers with higher (lower) power distance beliefs.

distance because, relative to consumers lower in power distance, they will be more likely to engage with messages from brands they think are powerful.

## Overview of Studies

We conducted four studies to examine whether expressing certainty in brand messages leads to higher levels of consumer engagement. Study 1a tests this effect by assessing actual interactions between brands and consumers on Facebook. The data consist of messages posted by brands and consumers' engagement with the brand messages. Study 1b replicates the majority of the results from Study 1a using data from Twitter. Study 2a extends the results of Studies 1a and 1b by testing whether certainty exerts a causal influence on consumer engagement by conducting an experiment in which we manipulate whether or not a brand uses certain language in a Facebook post. Study 2a also examines the process driving the relationship between certainty and consumer engagement. Study 2b confirms the results found in Study 2a using a different setting.

### Study 1a

Study 1a was designed to test our first hypothesis—that brand messages that express higher levels of certainty on social media engage consumers more than messages that express lower levels of certainty. This hypothesis was tested by analyzing 7,382 messages posted to Facebook. The Facebook messages were generated by brands from a variety of industries. The relationship between expressing certainty in messages and the number of likes, comments, and shares generated by each message was assessed.

#### Field Data

We obtained brand messages posted to Facebook from UnMetric ([unmetric.com](http://unmetric.com)), a social media analytics service provider. Our sample included messages that were posted to Facebook between July 2013 and June 2014. In addition to the messages, Unmetric provided us with three indicators of consumer engagement: the number of likes, comments, and shares associated with each message. Messages were pulled from Facebook each day during the data collection period and the metadata associated with each message was updated daily. Metadata was updated for an additional month following the collection period to ensure that consumers had an adequate opportunity to interact with each message. Research indicates that 99.9% of engagement with social media messages occurs within the first 15 days of the messages being posted to social media (Lee et al., 2018).

The messages in our sample came from 18 brands that represent a variety of industries. The brands included in the sample were Adidas, Amazon, AT&T, Bank of America, Citibank, Delta, General Motors, Intel, LinkedIn, Lululemon, Monster Energy, McDonald's, Red Bull, Samsung, Skittles, Under Armour, Victoria's Secret, and Walmart. The data

provider gave us access to the most recent 500 messages posted by each brand during the data collection period. Four brands reached this limit: Amazon, Lululemon, Monster Energy, and Walmart. Descriptive information about the brands' posts are displayed in Table 1. The final sample consisted of 7,382 Facebook posts. As is common, consumer engagement varied greatly across messages and had a positively skewed distribution. The number of likes per post ranged from 0 to 709,627 ( $M = 6,612.88$ ,  $SD = 26,341.11$ ;  $skewness = 11.58$ ,  $SE = 0.03$ ), the number of shares per post ranged from 0 to 28,553 ( $M = 279.08$ ,  $SD = 1,094.22$ ;  $skewness = 12.29$ ,  $SE = 0.03$ ), and the number of comments per post ranged from 0 to 26,811 ( $M = 200.52$ ,  $SD = 1,018.17$ ;  $skewness = 11.58$ ,  $SE = 0.03$ ).

The messages posted by the brands included text, such as the following Facebook post by LinkedIn: “College dropout raised by a single mom went from serving buffalo wings to serving as CEO. For real.” Of the messages collected, 8.8% ( $n = 646$ ) were only text, 26% ( $n = 1,916$ ) included text and a link, 55.3% ( $n = 4,081$ ) included text and a photo, and 10% ( $n = 739$ ) included text and a video. The number of words in the brand messages ranged from 1 to 152 ( $M = 20.08$ ,  $SD = 12.93$ ).

#### Analysis of Field Data

We used Linguistic Inquiry and Word Count (LIWC) software to code the expression of certainty in each brand message. Commercial and academic versions of this software can be obtained online ([liwc.wpengine.com](http://liwc.wpengine.com)). This software has been widely used to analyze the content of social media messages (e.g., Hewett, Rand, Rust, & van Heerde, 2016; Leek, Houghton, & Canning, 2019; Liu, Xie, & Zhang, 2019; Wakefield & Wakefield, 2018). The LIWC program includes a dictionary containing 113 different words that express

Table 1  
Descriptive statistics of Facebook posts analyzed in Study 1a.

Brand name	Total brand posts	% of brand posts with certainty words(s)	Average word count
Adidas	209	34%	22.8
Amazon	500	29%	23.3
AT&T	313	20%	22.3
Bank of America	490	29%	28.0
Citibank	295	19%	27.8
Delta	487	24%	26.9
General Motors	270	35%	38.3
Intel	289	19%	17.1
LinkedIn	489	21%	17.4
Lululemon	500	22%	21.8
Monster Energy	500	22%	21.0
McDonald's	341	16%	14.5
Red Bull	465	9%	9.2
Samsung	395	12%	15.2
Skittles	385	22%	13.6
Under Armour	457	26%	17.4
Victoria's Secret	497	19%	15.1
Walmart	500	18%	17.6



certainty (e.g., absolute, defined, must, never, perfect, proof, visibly). The words included in the LIWC dictionary are based on the research of Pennebaker and colleagues which has demonstrated the internal and external validity of using the LIWC dictionary to assess the prevalence of psychological constructs in text communications (Pennebaker, 2011; Pennebaker et al., 2015; Pennebaker & Chung, 2013; Tausczik & Pennebaker, 2010). Our independent variable was the proportion of words in a message that express certainty, which the LIWC program calculates by dividing the number of words that express certainty in a message by the total number of words (Pennebaker et al., 2015). The majority of brand messages did not include any of the 113 words that Pennebaker et al. (2015) identified as expressing certainty. However, 21.9% ( $N = 1,614$ ) of the brand messages did contain at least one word expressing certainty. The percent of words that expressed certainty in a message ranged from 0 to 50%.

We assessed engagement, our dependent variable, by summing the number of “shares,” “comments,” and “likes” for each brand message (Cruz et al., 2017). However, we also analyzed these indicators individually. In general, count data, such as the number of times a consumer engages with a message on social media, tends to be positively skewed. To account for overdispersion, we used negative binomial regression. Additionally, we included control variables to account for possible confounds. We controlled for the number of words in each message, the number of people following the Facebook account the day the message was posted, and a continuous measure of the sentiment expressed in the post which was determined by the LIWC program (Pennebaker et al., 2015). We also created dummy variables indicating the brand that made the post and whether the post mentioned another brand (0 = no other brands were mentioned, 1 = at least one other brand was mentioned). We created dummy variables to account for brand post type, i.e., text-only, text plus link, text plus photo, or text plus video. Finally, we controlled for whether the messages attempted to include humor by manually coding for the presence or absence of humor in 800 of the posts (approximately 10% of the sample). We used a convolutional neural network (Kim, 2014) to code the remaining 6,582 Facebook posts. We trained the network using the manually coded posts, after which the network classified the remaining posts as either probably containing humor or not. The network accurately coded 85.62% of the posts, which exceeds the 80% criterion that the literature suggests (Berger et al., 2019).

## Results

The likelihood ratio test for the negative binomial regression model was significant ( $\chi^2(22) = 11,875.49, p < .001$ ) indicating good fit. Importantly, the results of the analysis support our first hypothesis and show that using words that express certainty results in more consumer engagement on Facebook ( $B = 0.008, p = .031$ ). Among the control variables, tests of the model effects reveal that the categorical control variables

representing the brand making the post and the type of message were significant (brand: Wald  $\chi^2(17) = 10,050.98, p < .001$ ; type: Wald  $\chi^2(3) = 434,72, p < .001$ ). Mentioning another brand had no effect on engagement ( $B = -0.036, p = .491$ ). Word count had a positive effect on engagement ( $B = 0.018, p < .001$ ). Number of fans and sentiment negatively affected engagement (fans:  $B = -2.158E-8, p = .033$ ; sentiment:  $B = -0.001, p = .004$ ). Humor had a marginally significant positive effect on engagement ( $B = 0.292, p = .071$ ).

We also tested whether using words that express certainty in brand messages is associated with each of the three indicators of engagement (i.e., likes, comments, and shares) using the same model described above. The results provide further support for our hypothesis. Using words that express certainty resulted in more shares ( $B = 0.012, p = .001$ ), comments ( $B = 0.01, p = .005$ ), and likes ( $B = 0.007, p = .051$ ). Among the categorical control variables, model effects show that brand and post type were significant across all three outcome variables ( $p$ 's  $< .001$ ). Mentioning another brand was positively related to each indicator variable ( $p$ 's  $< .05$ ). Number of fans had a negative effect on shares ( $B = -9.259E-8, p < .001$ ), comments ( $B = -4.502E-8, p < .001$ ), and likes ( $B = -2.263E-8, p < .001$ ). Word count had a positive effect on likes ( $B = 0.015, p < .001$ ) and comments ( $B = 0.013, p < .001$ ), but a negative effect on shares ( $B = -0.011, p < .001$ ). Sentiment had a negative effect on likes ( $B = -0.001, p = .002$ ), but no effect on shares ( $B = -0.001, p = .139$ ) or comments ( $B = 0.001, p = .482$ ). Humor had a positive effect on comments ( $B = 0.939, p < .001$ ), but no effect on shares ( $B = 0.100, p = .452$ ) or likes ( $B = 0.206, p = .193$ ).

## Discussion

In sum, the results from Study 1a provide initial evidence that consumers engage more with brand messages that express certainty. Consumers were more likely to like, comment on, and share messages that expressed greater certainty. Although this study provides initial evidence for a positive effect of expressing certainty on consumer engagement, whether the positive effect extends to other social media platforms is unclear. Study 1b addresses this limitation.

## Study 1b

Study 1b tests whether the positive effect of expressing certainty on consumer engagement, observed in the previous study, extends to another social media platform, Twitter. Facebook and Twitter are both popular among companies promoting their brands (Barnes, Kane, & Maloney, 2018) and among consumers (Pew, 2019); however, they have different user demographics and platform characteristics. For instance, Twitter users tend to be younger, on average, compared to Facebook users, and Twitter imposes a much stricter character limit on messages (Pew, 2019).

## Field Data

Brand messages were pulled from the Twitter pages of the same 18 brands used in Study 1a. As in the previous study, this data was obtained from UnMetric ([unmetric.com](http://unmetric.com)). UnMetric pulled messages from Twitter each day from July 2013 to June 2014, and from this period we were given access to each brand's most recent 1,000 messages. Engagement data associated with each message was updated daily for a period of up to a month following the posting of each message to ensure that consumers had enough time to engage with each message (Lee et al., 2018). In accordance with previous research (e.g., Ordenes et al., 2018), we analyzed original brand tweets that were created for the brands' followers. Shared messages (i.e., retweets) and replies were excluded since the brand did not create this content. The final sample included 8,226 messages. As in the previous study, engagement across the messages was positively skewed. The number of likes per message ranged from 0 to 985 ( $M = 78.76$ ,  $SD = 128.29$ ;  $skewness = 3.33$ ,  $SE = 0.03$ ), the number of retweets ranged from 0 to 995 ( $M = 67.92$ ,  $SD = 116.43$ ;  $skewness = 3.90$ ,  $SE = 0.03$ ), and the number of replies ranged from 0 to 996 ( $M = 12.43$ ,  $SD = 39.48$ ;  $skewness = 10.79$ ,  $SE = 0.03$ ). The number of words in each message ranged from 1 to 36 ( $M = 19.34$ ,  $SD = 4.95$ ). See Table 2 for descriptive statistics.

## Analysis of Field Data

We assessed the level of certainty in each message using the same procedure described in Study 1a (see Study 1a for details). The percent of words that express certainty ranged from 0 to 25%. Only 14.6% ( $N = 1,198$ ) of the messages contained a word related to certainty. The dependent variable was the sum of the shares (retweets), replies, and likes that corresponded to each message.

Table 2  
Descriptive statistics of Twitter posts analyzed in Study 1b.

Brand name	Total brand posts	% brand posts with certainty word(s)	Average word count
Adidas	179	26%	21.6
Amazon	826	11%	21.1
AT&T	25	0%	22.7
Bank of America	365	10%	18.4
Citibank	732	9%	19.8
Delta	356	7%	19.7
General Motors	583	17%	21.3
Intel	925	12%	19.8
LinkedIn	742	19%	22.6
Lululemon	173	21%	18.3
Monster Energy	639	12%	19.7
McDonald's	250	14%	16.4
Red Bull	325	10%	17.4
Samsung	550	12%	18.5
Skittles	974	24%	15.8
Under Armour	502	18%	18.4
Victoria's Secret	53	21%	16.6
Walmart	27	7%	20.4

To account for overdispersion, we analyzed the data using negative binomial regressions. As in Study 1a, we controlled for the number of words included in each message, the number of people following the Twitter account the day the message was posted, and message sentiment (Pennebaker et al., 2015). We also created dummy variables to control for the brand that made the post, whether the post mentioned another brand and whether the message expressed humor. The humor variable was created using the same procedure described in the previous study. The procedure resulted in a machine learning algorithm that accurately coded 86.25% of the messages, exceeding the 80% criterion (Berger et al., 2019).

## Results

The results of the likelihood ratio test indicate a good fit for the negative binomial regression model ( $\chi^2(23) = 4,919.51$ ,  $p < .001$ ). The results also support our hypothesis—Twitter messages that expressed relatively higher levels of certainty engaged consumers more than messages that expressed relatively lower levels of certainty ( $B = 0.024$ ,  $p < .001$ ). Among the control variables, the brand that made the post was significant (Wald  $\chi^2(17) = 3,949.07$ ,  $p < .001$ ). Mentioning another brand had a positive effect on engagement ( $B = 0.108$ ,  $p = .032$ ). Number of fans and word count were not significant ( $p$ 's  $> 0.10$ ). Humor exerted a positive effect on engagement ( $B = 0.229$ ,  $p < .001$ ), whereas sentiment exerted a negative effect ( $B = -0.002$ ,  $p < .001$ ).

We used the same model to test whether certainty related to each of the engagement indicators (retweets, replies, and likes). Expressing certainty in messages increased the number of corresponding retweets ( $B = 0.028$ ,  $p < .001$ ) and likes ( $B = 0.024$ ,  $p < .001$ ). Certainty did not affect replies ( $B = 0.001$ ,  $p = .952$ ). Tests of the model effects reveal that the brand that generated the message was significant across the three outcome variables ( $p$ 's  $< .001$ ). Mentioning another brand had a significant effect on likes ( $B = 0.116$ ,  $p = .021$ ) and a marginally significant effect on retweets ( $B = 0.089$ ,  $p = .079$ ), but no effect on replies ( $B = -0.011$ ,  $p = .834$ ). Word count had a negative effect on retweets ( $B = -0.004$ ,  $p = .082$ ) and replies ( $B = -0.02$ ,  $p < .001$ ), but not on likes ( $B = -0.001$ ,  $p = .635$ ). Number of fans had a positive effect on likes ( $B = 1.033E-7$ ,  $p < .001$ ), but a negative effect on retweets ( $B = -1.500E-7$ ,  $p < .001$ ) and replies ( $B = -3.015E-7$ ,  $p < .001$ ). Humor had a positive effect on retweets ( $B = 0.432$ ,  $p < .001$ ) and replies ( $B = 0.268$ ,  $p < .001$ ), but no effect on likes ( $B = 0.021$ ,  $p = .699$ ). Sentiment had a negative effect on all three indicators ( $p$ 's  $< .001$ ).

## Discussion

Study 1b shows that expressing certainty in brand messages posted to Twitter is associated with higher levels of consumer engagement. These results replicate those found among brand messages posted to Facebook (Study 1a). Replicating the effect across different social media platforms

and among several different indicators of consumer engagement provides robust evidence for the positive relationship between expressing certainty and consumer engagement. It is important to note, however, that relying on field data limits our ability to infer causation and identify a process through which certainty leads to engagement. Field data also does not let us control for the context of the message. The following experimental studies were designed to address these limitations.

### Study 2a

The previous studies identified a positive relationship between using words that relate to certainty and consumer engagement with brand messages posted on social media. Study 2a extends these results in several important ways. First, it tests whether certainty causes an increase in consumer engagement by experimentally manipulating whether brand messages use words related to certainty. By conducting a controlled experiment instead of analyzing field data, we were able to control the context of the message and verify that participants perceived different levels of certainty in the brand messages. Second, the study investigates the process driving the relationship between certainty and engagement. Previous research suggests that language expressing certainty tends to increase the extent to which a communicator seems powerful in general (Adkins & Brashers, 1995; Han & Lind, 2017; Hart & Childers, 2004). Because consumers are drawn to powerful brands (Billett et al., 2014; Goldstein & Hays, 2011; Herrbach et al., 2004), we predict that certainty in brand messages will increase engagement by increasing perceptions of a brand's power (H2). Third, this study further examines the proposed process by testing whether chronic power distance beliefs of the consumer moderate the indirect effect of certainty on engagement. Specifically, we test whether consumers who have higher power distance beliefs engage more with brand messages using words that express certainty because these consumers are more likely to engage with brands that they believe are powerful (H3).

### Method

Participants recruited from Amazon's Mechanical Turk completed the study in exchange for a small payment. The survey began with a reading check to verify that participants were reading the instructions. One participant failed the reading check and was directed out of the study before being assigned to an experimental condition. The final sample consisted of 504 participants (222 female, age 19–71,  $M = 36.7$ , all from the USA).

In the experiment, participants viewed a Facebook message from the fictitious brand, Cloud Scaling. The content of the message promoted the company's services to backup and store computer files. We manipulated the language in the message such that one version of the post used certain language and the other version did not. Participants randomly assigned to the high certainty condition, read: "Don't let a computer crash ruin

### High Certainty Condition



### Low Certainty Condition



Fig. 2. Facebook posts used in Study 2a.

everything. Choose the absolute best in data storage." Participants in the low certainty condition read: "Don't let a computer crash ruin things. Choose the best in data storage." (see Fig. 2).

After viewing the Facebook post, participants responded to the following measures. We measured the likelihood of engaging with the brand message using an item adapted from Berger (2011). It used a seven-point scale (1 = very unlikely, 7 = very likely) and asked, "How likely would you be to like, comment, or share this Facebook post." We measured perceptions of brand power using four items adapted from Warren, Pezzuti, and Koley (2018). Specifically, participants responded to the following items using a seven-point scale with endpoints ranging from "strongly disagree" to "strongly agree": (1) The company seems powerful, (2) The company seems strong, (3) The company seems assertive, and (4) The company seems dominant ( $\alpha = 0.94$ ). We measured the power distance beliefs of the participants using five items from Yoo, Donthu, and Lenartowicz (2011). The items (e.g., "People in higher positions should make most decisions without consulting people in lower positions") used seven-point scales with endpoints ranging from "strongly disagree" to "strongly agree" ( $\alpha = 0.91$ ). Note that these measures assess chronic individual beliefs about power distance in general; they do not assess participants' opinion about specific brands or companies. As a manipulation check, participants also responded to the following item using a seven-point scale with endpoints ranging from "strongly disagree" to "strongly agree": "The post communicates the company's message with a high level of certainty." Finally, we measured participants' demographic information and their usage of Facebook (see Appendix C).



## Results

Before testing the hypotheses, we verified that participants in the high certainty condition perceived higher certainty in the message than participants in the low certainty condition by testing a one-factor ANOVA with the certainty manipulation as the independent variable and perceptions of certainty as the dependent variable. As expected, compared to participants in the low certainty condition, participants in the high certainty condition thought the post communicated the message with a higher degree of certainty ( $M = 5.21$  vs.  $4.58$ ;  $F(1, 500) = 17.48$ ,  $p < .001$ ).

We tested the effect of certainty on engagement with the brand message using a one-factor ANOVA with certainty as the independent variable and the likelihood of engaging with the brand message as the dependent variable. The results show that participants in the high certainty condition were more likely to engage with the brand message than participants in the low certainty condition ( $M = 2.82$  vs.  $2.41$ ;  $F(1, 499) = 5.77$ ,  $p = .017$ ), thus supporting the prediction that certainty leads to higher engagement with brand messages on social media (H1). The results remained significant after controlling for participants' Facebook use ( $F(1, 498) = 5.55$ ,  $p = .019$ ).

We assessed the process through which certainty affects engagement with brand messages on social media by testing two models. The first model was a mediation model that included certainty as the independent variable, perceptions of the brand's power as the mediating variable, and engagement with the brand as the dependent variable (Model 4, Hayes, 2013). The second model was a moderated mediation model (Model 14, Hayes, 2013). It tested whether the indirect effect of certainty on engagement was moderated by power distance beliefs (see Fig. 1).

The results of the mediation model indicate that perceptions of brand power mediated the effect of certainty on the likelihood of engaging with the brand. As shown in Fig. 3, using words that express certainty caused the brand to seem more powerful ( $B = 0.48$ ,  $t = 3.30$ ,  $p < .01$ ), and this perception of brand power increased participants' likelihood of engaging with the brand ( $B = 0.70$ ,  $t = 16.44$ ,  $p < .001$ ). The indirect effect of certainty on engagement through perceptions of brand power was significant (indirect effect =  $0.33$ , 95% CI  $0.14$  to  $0.53$ , based on 5,000 resamples). Moreover, the direct effect of certainty on the likelihood of engaging with the brand ( $B = 0.39$ ,  $t = 2.28$ ,  $p = .023$ ) became insignificant after

accounting for perceptions of brand power ( $B = 0.08$ ,  $t = 0.54$ ,  $p = .59$ ). These results suggest that the effect of certainty on engagement with brand messages on social media is fully mediated by perceptions of brand power.

Next, we used a moderated mediation model to test whether the process through which certainty affects engagement is moderated by power distance. The model included certainty as the independent variable, perceptions of brand power as the mediating variable, the likelihood of engaging with the brand as the dependent variable, and power distance beliefs as a variable moderating the relationship between perceptions of brand power and the likelihood of engaging with the brand (see Fig. 1). The results show that the interaction between perceptions of brand power and power distance beliefs on the likelihood of engaging with the brand was significant ( $B = 0.06$ ,  $t = 2.27$ ,  $p = .024$ ). Power distance beliefs, in turn, moderated the indirect effect of certainty on the likelihood of engaging with the brand (index of moderated mediation =  $0.03$ , 95% CI  $0.007$  to  $0.06$ , based on 5,000 resamples). An analysis of the indirect effect of certainty on engagement among participants with low, medium, and high power distance beliefs shows that the indirect effect was stronger for participants with relatively high power distance beliefs (indirect effect =  $0.33$ , 95% CI  $0.13$  to  $0.54$ ) compared to participants with average (indirect effect =  $0.29$ , 95% CI  $0.11$  to  $0.47$ ) and relatively low (indirect effect =  $0.25$ , 95% CI  $0.09$  to  $0.41$ ) power distance beliefs.

## Discussion

The results of Study 2a confirm that using language that expresses certainty increases consumer engagement with brands on social media. The effect of expressing certainty on consumer engagement occurs because certainty increases perceptions of a brand's power, which, in turn, has a positive effect on engagement. These results are consistent with the literature suggesting that expressing certainty increases perceived power (Adkins & Brashers, 1995; Han & Lind, 2017; Hart & Childers, 2004) and that consumers are attracted to powerful people and brands (Billett et al., 2014; Bryan et al., 2011; Goldstein & Hays, 2011; Herrbach et al., 2004). The results also demonstrate that the strength of this effect depends on a consumer's cultural orientation—specifically, their power distance beliefs. The indirect effect of certainty on engagement, through perceptions of brand power, is stronger among consumer who hold stronger power distance beliefs.

These results provide managers with clear guidance on how to increase consumer engagement through the content they promote on social media. In addition, these results align with those obtained in our field studies. However, the present study investigated a single message from a single brand (Cloud Scaling) on a single platform (Facebook). To establish the generalizability of the effect of certainty on engagement and the process underlying the effect, we attempt to replicate the results in a different setting in Study 2b.

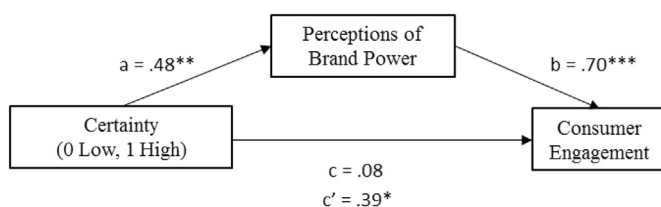


Fig. 3. The effect of certainty on engagement is mediated by perceptions of brand power (indirect effect =  $0.33$ , 95% CI  $0.14$  to  $0.53$ , based on 5,000 resamples). Note: The figure shows unstandardized regression coefficients. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .



## Study 2b

Study 2a offered initial evidence that expressing certainty in a brand message leads to more engagement by making brands seem more powerful. Study 2b tests the generalizability of this effect by conducting a similar experiment but with different messages generated by a different company on a different social media platform. Study 2b thereby attempts to confirm: (a) whether perceptions of brand power mediate the relationship between expressing certainty in brand messages and engagement and (b) whether the indirect effect of expressing certainty on engagement (through perceptions of brand power) is moderated by power distance beliefs (see Fig. 1).

### Method

A total of 606 active Twitter users were recruited for this study using the platform Prolific Academic (Peer, Brandimarte, Samat, & Acquisti, 2017). Twenty-seven participants failed the reading check and were directed out of the study before being assigned to an experimental condition. Among the 579 participants that completed the study, 262 were female, and ages ranged from 18 to 76 ( $M = 35.0$ ). All participants were from the USA.

Participant read a message posted by a fictitious online retailer, JJM, to Twitter. The message promoted the company's customer service. We manipulated the message to express high or low certainty by varying the proportion of words that Pennebaker et al. (2015) have identified as expressing certainty. Participants that were randomly assigned to the high certainty condition read: "It's a fact. Customer reviews prove that we provide undeniably good service. You'll be completely satisfied." Participants randomly assigned to the low certainty condition read: "It's correct. Customer reviews suggest that we provide good service. You'll be satisfied." See Fig. 4 to see the posts.

After viewing the Twitter message, participants responded to the same items measured in Study 2a, except that we modified the engagement measure to make it appropriate for Twitter (i.e., "How likely would you be to like, reply, or retweet this Twitter post?"). The items used to measure perceptions of brand power ( $\alpha = 0.92$ ) and power distance beliefs ( $\alpha = 0.83$ ) showed adequate reliability. As a manipulation check, participants indicated the extent to which they agreed with the statement, "The post communicates the company's message with a high level of certainty," on a scale from 1 ("strongly disagree") to 7 ("strongly agree").

### Results

The manipulation check confirmed that the manipulation worked as intended. Participants in the high certainty condition perceived that the message expressed more certainty ( $M = 5.09$ ) than participants in the low certainty condition ( $M = 4.21$ ;  $F(1, 577) = 33.64$ ,  $p < .001$ ).

The results of a single-factor ANOVA with certainty as the independent variable and the likelihood of engaging with the

### High Certainty Condition



It's a fact. Customer reviews prove that we provide undeniably good service. You'll be completely satisfied.

### Low Certainty Condition



It's correct. Customer reviews suggest that we provide good service. You'll be satisfied.

Fig. 4. Twitter messages used in Study 2b.

brand message as the dependent variable provide further support for our first hypothesis. Specifically, participants in the high certainty condition indicated higher levels of engagement ( $M = 2.28$ ) than participants in the low certainty condition ( $M = 2.00$ ;  $F(1, 575) = 4.36$ ,  $p = .037$ ).

To test whether perceptions of brand power mediated the effect of expressing certainty on consumer engagement, we tested a mediation model (Model 4, Hayes, 2013) with certainty as the predictor variable, perceptions of brand power as the mediator, and the likelihood of engaging with the brand message as the outcome variable. The results replicated Study 2a and show that expressing certainty exerted a positive effect on perceptions of brand power ( $B = 0.69$ ,  $t = 5.36$ ,  $p < .001$ ) and that perceptions of brand power had a positive effect on engagement ( $B = 0.55$ ,  $t = 14.66$ ,  $p < .001$ ), thus resulting in a positive indirect effect of expressing certainty on engagement (indirect effect = 0.38, 95% CI 0.24 to 0.55, based on 5,000 resamples). Moreover, the relationship between expressing certainty and engagement became non-significant after accounting for perceptions of brand power ( $B = -0.10$ ,  $t = -0.81$ ,  $p = .42$ ), indicating full mediation.

We also replicated the moderated mediation model tested in Study 2a to test whether power distance beliefs moderated the indirect effect of expressing certainty on engagement (see Fig. 1). The moderated mediation model (Model 14, Hayes, 2013) included certainty as the predictor variable, perceptions of brand power as the mediator, engagement as the dependent variable, and power distance beliefs as a variable moderating the relationship between perceptions of brand power and engagement. Again, the indirect effect of expressing certainty on brand power (through perceptions of brand power) depended on the power distance beliefs of the participants (index of moderated mediation = 0.05, 95% CI 0.004 to 0.10, based on 5,000 resamples). As predicted, the indirect effect of

certainty on engagement was stronger among participants who endorse higher levels of power distance (indirect effect<sub>low</sub> = 0.31, 95% CI 0.19 to 0.46; indirect effect<sub>medium</sub> = 0.37, 95% CI 0.24 to 0.52; indirect effect<sub>high</sub> = 0.42, 95% CI 0.27 to 0.62).

### Discussion

Study 2b replicated the direct, mediated, and moderated mediation effects found in Study 2a with different messages, posted on a different platform (Twitter instead of Facebook), from a brand in a different industry. Together, the results of Studies 2a and 2b show that expressing certainty in brand messages makes brands seem more powerful and that consumers want to engage with powerful brands. The studies also show that power distance beliefs amplify the indirect effect of expressing certainty on engagement. Thus, although marketers are likely to benefit from expressing certainty when communicating to consumers on social media in general, the positive results of expressing certainty may be greatest when communicating with consumers with high power distance beliefs, for example, consumers in countries like China, Mexico, and Russia.

### General Discussion

Brands can increase the likelihood that consumers interact with their social media posts by using words that express certainty (e.g., always, all, never, definitely; Pennebaker et al., 2015). We observed the relationship between certainty and engagement in two field studies involving millions of actual interactions between brands and consumers and in two controlled experiments. Consumers engage more with brand messages that express certainty because expressing certainty makes brands seem more powerful, and consumers want to engage with powerful brands. The positive effect of perceptions of brand power on consumer engagement, however, is moderated by power distance beliefs. The positive relationship between perceptions of brand power and engagement is stronger among consumers with relatively higher power distance beliefs. As a result, the indirect effect of expressing certainty on consumer engagement is stronger among consumer with higher power distance beliefs.

### Theoretical Implications

The study of certainty has a long history in consumer research and marketing (Brown & Bond, 1995; Gopinath & Nyer, 2009; Pullig, Netemeyer, & Biswas, 2006; Rucker & Petty, 2006; Rucker, Tormala, Petty, & Briñol, 2014). However, much of the research on how certainty affects consumer behavior and marketing outcomes focuses on attitude certainty and persuasion. Attitude certainty refers to confidence in one's opinions or beliefs (Rucker & Petty, 2006) and has been shown to have important implications. For instance, attitude certainty reflects the likelihood that an attitude will change over time and the likelihood that consumers elaborate

on new information (Gopinath & Nyer, 2009; Pullig et al., 2006; Rucker et al., 2014; Rucker & Petty, 2006). In the domain of persuasion, research has typically focused on the relationship between expressing certainty in product risks and benefits and in consumer judgment and decision making (Karmarkar and Tormala, 2010; Price & Stone, 2004). For example, Karmarkar and Tormala (2010) studied how attitudes toward restaurants are affected by the confidence expressed in the reviews of the restaurant.

Marketing communications, however, often encompass more than communicating risks and benefits. Many forms of communication, such as brand messages on social media, focus on consumer-brand engagement (Mangold & Faulds, 2009). As demonstrated in the present research, expanding the study of certainty to brand communications on social media has important implications. By connecting research in psycholinguistics, which links certainty to power (Adkins & Brashers, 1995; Han & Lind, 2017; Hart & Childers, 2004), with research in brand communications, we show that expressing certainty in brand messages on social media does more than merely shape how consumers interpret information about products and services. Expressing certainty makes brands seem powerful, which, in turn, drives consumers to engage with them.

Our research also expands the literature on power. Within the marketing literature, brand power is typically conceptualized as brand equity, which reflects brand awareness and the types of associations and attitudes consumers maintain toward a brand (Na, Marshall, & Keller, 1999). In other literature, however, power is conceptualized as strength, dominance, and the ability to control resources (Bryan et al., 2011; Galinsky et al., 2008; Keltner et al., 2003). Although brands vary in their assertiveness and the extent that they exhibit dominant traits, little research has focused on how perceptions of a brand's power affects consumers (Kronrod, Grinstein, & Wathieu, 2012). Nike's slogan "Just do it," for example, uses assertiveness to help create a powerful brand image. Our findings contribute to the understanding of brand communication and perceived brand power by showing that social media users' perceptions of brand power affect behavioral outcomes relevant to digital marketers, such as engagement.

This research also contributes to the literature on cultural dimensions theory by demonstrating that power distance affects how consumers respond to the language of others. Although power distance has been shown to influence a range of behaviors (Hofstede et al., 2010; Roth, 1995; Yun et al., 2008), its effect on how people respond to the language used by others is unclear. The boundaries and vertical relationships that exist among social classes tend to be well-defined among those living in cultures marked by high power distance (Hofstede et al., 2010; Inkeles, 1960; Lenski, 1966). People in high power distance cultures tend to be focused on class and aspire to maintain and gain power (Hofstede et al., 2010). As our results show, this cultural difference has important implications for understanding how the language used by a communicator affects the behavior of the person receiving the message. In the case of brand messages on social media, these differences affect

the extent to which expressing certainty affects consumer engagement.

### *Managerial Implications*

The importance of providing firms with strategies that will help them engage consumers on social media is increasing as marketing managers commit larger portions of their budget to social media (CMOSurvey.org, 2016). One of the most important factors affecting consumer engagement is the content that brands disseminate through social media (Lee et al., 2018). Since text-based language is a central component of marketing communications on social media, understanding aspects of language that drive engagement is imperative. The present research provides insight to social media marketers on how to increase consumer engagement through the language they use in their text-based online communications.

Indeed, there are many ways that brands can express certainty. In our studies, we assessed whether brand messages contained specific words that have been shown to relate to certainty in previous research (Pennebaker et al., 2015). Although single words may seem rather insignificant, recent research has shown that the inclusion of specific words can increase engagement on social media. For example, second-person pronouns, such as “you” or “yours” increase engagement by making brand messages seem more self-relevant (Cruz et al., 2017). The messages analyzed in our field studies contained many different words that express certainty, for example, “all,” “every,” “never,” “nothing,” “true,” “perfect,” “commit,” and “prove.” In our experiments, we were able to increase the likelihood that consumers would engage with brands through subtle linguistic changes, for example, by using the word “everything” rather than “things” and by using the phrase “the absolute best” rather than “the best.” In addition, this rather simple “certainty effect” seems to be underutilized in social media marketing communications. Our field studies found that a relatively low percentage of brand messages express certainty (21.9% on Facebook and 14.6% on Twitter). This suggests that brands can increase engagement by using a greater proportion of certainty words in their social media messages.

The results of the present research also suggest that the observed certainty effect is robust across social media platforms including Facebook and Twitter. Using words related to certainty was associated with more shares, comments, and likes on Facebook and with more retweets and likes on Twitter. In addition, understanding the process through which certainty affects consumer engagement broadens the possible implications of the certainty effect. As illustrated in Studies 2a and 2b, certainty words increase perceptions of a brand's power, and perceptions of brand power directly affect engagement. The positive effect of certainty on perceptions of power suggests that expressing certainty in other types of marketing communications (e.g., direct marketing and personal selling) could also make a brand seem more powerful and dominant, which could have important implications for other types of marketing communications—digital or traditional.

Finding a direct effect of perceptions of brand power on consumer engagement is also important. In particular, it suggests that an increase in perceived brand power, whether achieved through the use of certainty words or otherwise, will increase subsequent engagement. Aston Martin, for example, recently announced plans to unveil a new concept car on Facebook with the following message that explicitly references the power and dominance of the automaker, “In an unprecedented show of force, Aston Martin has chosen the 89<sup>th</sup> Geneva Motor Show to complete a trio of world debuts ...” Explicitly stating the company's “unprecedented show of force” may have increased perceived brand power and subsequent engagement with the message.

Finally, the results of our research should also help managers understand the cultural factors that influence the effectiveness of expressing power in brand messages. Specifically, managers should emphasize power, for example, by expressing certainty and confidence, in their brand messages when communicating with consumers in high power distance cultures (e.g., China, Egypt, Mexico, and Russia). The importance of status and power among consumers in these cultures tends to enhance the appeal of a powerful image (Kim & Zhang, 2014; Roth, 1995). This realization may be especially helpful for multi-national firms looking to expand their digital presence to emerging markets marked by high power distance.

### *Limitations and Future Research*

There are a number of ways to expand our research to address its limitations. A limitation of our research is that it relied on an established dictionary (Pennebaker et al., 2015) in which certainty words are equally weighted. Some certainty words may have a greater effect on perceived brand power and engagement than others. A more granular approach could identify certainty words that are most effective for a particular brand. There are also opportunities to identify additional boundary conditions for our observed certainty effect. In the present research, the cultural dimension of power distance moderated the certainty effect. Power distance is especially relevant for marketing practice since managers often consider cultural and geographic factors when segmenting consumers (Hofstede, Steenkamp, & Wedel, 1999). Future research, however, could potentially identify other factors that moderate how consumers respond to the expression of certainty. Socio-economic status, for example, also relates to how people respond to power (Keltner et al., 2003) and may have implications for predicting how consumers respond to expressions of certainty.

Another opportunity for future research is to study whether and how the effect of message content on consumer engagement differs depending on social media platform (e.g., Berger & Iyengar, 2013). Our field study using Facebook data revealed that the expression of certainty similarly affected the number of shares, comments, and likes a message received. However, our field study using Twitter data found a slightly different result. The expression of

certainty was associated with more retweets and likes; however, it did not significantly affect the number of comments a message received. This discrepancy between Facebook and Twitter highlights the need to consider differences across social media platforms. Other differences in how consumers use Facebook and Twitter have been noted as well. For example, Smith, Fischer, and Yongjian (2012) report that brands have a larger effect on the content consumers create on Twitter than on Facebook. Future research could shed light on these discrepancies by outlining the differences between social media platforms and by uncovering what drives different forms of engagement on a given platform.

Another limitation of our research is that it focused on one dependent variable: consumer engagement. Future research could examine whether expressing certainty in brand messages on social media affects other important marketing outcomes, such as brand awareness, attitudes, and conversions or sales. For instance, engaging consumers on social media is known to positively affect brand attitude (Cruz et al., 2017; Hollebeek et al., 2014), and future research could assess whether engagement resulting from the expression of certainty in messaging affects downstream marketing outcomes such as sales and satisfaction. Building on this research will provide marketing managers with the insight they need to understand how language can be leveraged to create the “absolute best” social media strategy.

**Acknowledgments**

The authors are grateful for assistance from Ryan Cruz, Tianyu Gu, Joon Ro, Daniel Schwartz, Nooshin Warren, and the *Journal of Interactive Marketing* review team for their comments.

**Appendix A. Negative Binomial Regression Results from Study 1a (Facebook)**

Parameter Estimates	
<i>DV: Consumer engagement</i>	
Certainty	0.008 *
Word Count	0.018 ***
Number of followers	-2.158E-8 *
Humor <sup>a</sup>	0.292
Mention other brand <sup>b</sup>	-0.036
Positive sentiment	-0.001 **
<i>Message type</i>	
Status update <sup>c</sup>	-
Status update and link	-0.839 ***
Status update and photo	-0.075
Status update and video	-0.790 ***
<i>Brand</i>	
Amazon <sup>c</sup>	-
Adidas	-0.693 **
AT&T	1.221 ***
Bank of America	-0.377
Citibank	6.602 **

Delta	-0.596
General Motors	-1.432 ***
Intel	3.892 ***
LinkedIn	-2.975 ***
Lululemon	-1.882 ***
McDonald's	-5.044 ***
Monster Energy	1.194 ***
Red Bull	1.839 ***
Samsung	2.652 ***
Skittles	1.050 ***
Under Armour	-1.193 ***
Victoria's Secret	2.010 ***
Walmart	0.534 ***
Constant	8.391 ***
Log likelihood	-66,899
N	7,382

\*\*\*p < .001.  
 \*\*p < .01.  
 \*p < .05.

<sup>a</sup> Humor absent = 0, humor present = 1.

<sup>b</sup> No mention of other brand = 0, mention of other brand = 1.

<sup>c</sup> These variables were set as the reference categories.

**Appendix B. Negative binomial regression results from Study 1b (Twitter).**

Parameter Estimates	
<i>DV: Consumer engagement</i>	
Certainty	0.024 ***
Word count	-0.003
Number of followers	-3.932E-8
Humor <sup>a</sup>	0.229 ***
Mention other brand <sup>b</sup>	0.108 *
Sentiment	-0.002 ***
<i>Brand</i>	
Amazon <sup>c</sup>	-
Adidas	0.589 ***
AT&T	0.377
Bank of America	-1.275 ***
Citi Bank	-2.043 ***
Delta	-0.514 ***
General Motors	-1.475 ***
Intel	0.495 ***
LinkedIn	-0.090
Lululemon	0.631 ***
McDonald's	0.869 ***
Monster Energy	0.599 ***
Red Bull	0.714 ***
Samsung	1.316 ***
Skittles	-0.189 **
Under Armour	0.075
Victoria's Secret	1.451 ***
Walmart	-1.388 ***
Constant	5.095 ***
Log Likelihood	-46,304
N	8,226

\*\*\*p < .001.  
 \*\*p < .01.  
 \*p < .05.

<sup>a</sup> Humor absent = 0, humor present = 1.

<sup>b</sup> No mention of other brand = 0, mention of other brand = 1.

<sup>c</sup> This variable was set as the reference category.



## Appendix C.

### C.1. Power Distance Scale

Indicate the extent to which you agree or disagree with the following statements (1 = strongly disagree, 7 = strongly agree): People in higher positions should make most decisions without consulting people in lower positions. People in higher positions should not ask the opinions of people in lower positions too frequently. People in higher positions should avoid social interaction with people in lower positions. People in lower positions should not disagree with decisions made by people in higher positions. People in higher positions should not delegate important tasks to people in lower positions.

### C.2. Usage of Facebook

How familiar are you with Facebook? 1 = I have never tried Facebook, 2 = I have used Facebook before, but I am not currently using it, 3 = I use Facebook at least once a year, 4 = I use Facebook at least once a month, 5 = I use Facebook at least once a week, 6 = I use Facebook daily.

### C.3. Exploratory Variables Not Included in the Analysis

#### C.3.1. Brand Attitude

The brand that created this Facebook post is ... 1 = Unappealing, 7 = Appealing; 1 = Bad, 7 = Good; 1 = Unfavorable, 7 = Favorable.

#### C.3.2. Involvement

In your opinion, this post is... 1 = Unimportant, 7 = Important; 1 = Boring, 7 = Interesting; 1 = Irrelevant, 7 = Relevant; 1 = Unexciting, 7 = Exciting; 1 = Means nothing, 7 = Means a lot to me; 1 = Unappealing, 7 = Appealing; 1 = Mundane, 7 = Fascinating; 1 = Uninvolving, 7 = Involving; 1 = Worthless, 7 = Valuable; 1 = Not needed, 7 = Needed.

#### C.3.3. Processing Fluency

This message is... 1 = Difficult to process, 7 = Easy to process.

#### C.3.4. Powerfulness of Message

Indicate the extent to which you agree or disagree with the following statements. (1 = strongly disagree, 7 = strongly agree): The message is powerful. The message is strong. The message is forceful.

## References

Adkins, M., & Brashers, D. E. (1995). The power of language in computer mediated groups. *Management Communication Quarterly*, 8(3), 289–322.

Arenas-Gaitán, J., Rondan-Cataluña, F. J., & Ramírez-Correa, P. E. (2018). Antecedents of WOM: SNS-user segmentation. *Journal of Research in Interactive Marketing*, 12(1), 105–124.

Barnes, N. G., Kane, A., & Maloney, K. (2018). The 2018 Fortune 500 Target Millennials and Seek Uncensored Expression. Retrieved on April 4, 2020 from <https://www.conference-board.org/blog/human-capital/Fortune-500-Target-Millennials>.

Batra, R., & Keller, K. L. (2016). Integrating marketing communications: New findings, new lessons, and new ideas. *Journal of Marketing*, 49(2), 122–145.

Berger, J. (2011). Arousal increases social transmission of information. *Psychological Science*, 22(7), 891–893.

Berger, J., Humphreys, A., Ludwig, S., Moe, W. W., Netzer, O., & Schweidel, D. A. (2019). Uniting the tribes: Using text for marketing insight. *Journal of Marketing*, 84(1), 1–25.

Berger, J., & Iyengar, R. (2013). Communication channels and word of mouth: How the medium shapes the message. *Journal of Consumer Research*, 40(3), 567–579.

Billett, M. T., Jiang, Z., & Rego, L. L. (2014). Glamour brand and glamour stocks. *Journal of Economic Behavior and Organization*, 107, 744–759.

Boyd, R. L., & Pennebaker, J. W. (2016). A way with words: Using language for psychological science in the modern era. In C.V. Dimofte (Ed.) *Consumer Psychology in a Social Media World* (pp. 222–222). New York, NY: Routledge.

Brown, S. W., & Bond, E. U. (1995). The internal/external market framework and service quality: Toward theory in services marketing. *Journal of Marketing Management*, 11(1–3), 25–39.

Bryan, A. D., Webster, G. D., & Mahaffey, A. L. (2011). The big, the rich, and the powerful: Physical, financial, and social dimensions of dominance in mating and attraction. *Personality and Social Psychology Bulletin*, 37-3, 365–382.

Cambridge (2020). Cambridge Dictionary. Retrieved on April 4, 2020 from <https://dictionary.cambridge.org/dictionary/english/certainty>.

CMOSurvey.org (2016). CMO Survey Report: Highlights and Insights, August 2016. Retrieved on April 4, 2020 from [https://cmosurvey.org/wp-content/uploads/sites/15/2018/01/The\\_CMO\\_Survey-Highlights\\_and\\_Insights-Aug-2016.pdf](https://cmosurvey.org/wp-content/uploads/sites/15/2018/01/The_CMO_Survey-Highlights_and_Insights-Aug-2016.pdf).

Cohen, S. J. (2012). Construction and preliminary validation of a dictionary for cognitive rigidity: Linguistic markers of overconfidence and overgeneralization and their concomitant psychological distress. *Journal of Psycholinguistic Research*, 41, 347–349.

Content Marketing Institute (2016). 2016 Benchmarks, Budgets, and Trends—North America. Retrieved on April 4, 2020 from [https://contentmarketinginstitute.com/wp-content/uploads/2015/09/2016\\_B2B\\_Report\\_Final.pdf](https://contentmarketinginstitute.com/wp-content/uploads/2015/09/2016_B2B_Report_Final.pdf).

Corley, P. C., & Wedeking, J. (2014). The (dis)advantage of certainty: The importance of certainty in language. *Law & Society Review*, 48(1), 35–62.

Cruz, R. E., Leonhardt, J. M., & Pezzuti, T. (2017). Second person pronouns enhance consumer involvement and brand attitude. *Journal of Interactive Marketing*, 39, 104–116.

Galinsky, A. D., Magee, J. C., Gruenfeld, D. H., Whitson, J. A., & Liljenquist, K. A. (2008). Power reduces the press of the situation: Implications for creativity, conformity, and dissonance. *Journal of Personality and Social Psychology*, 95(6), 1,450–1,466.

Goldstein, N. J., & Hays, N. A. (2011). Illusory power: The vicarious experience of power. *Administrative Science Quarterly*, 56(4), 593–621.

Goodwin, S. A., Gubin, A., Fiske, S. T., & Yzerbyt, V. Y. (2000). Power can bias impression processes: Stereotyping subordinates by default and design. *Group Processes and Intergroup Relations*, 3(3), 227–256.

Gopinath, M., & Nyer, P. U. (2009). The effect of public commitment on resistance to persuasion: The influence of attitude certainty, issue importance, susceptibility to normative influence, preference for consistency and source proximity. *International Journal of Research in Marketing*, 26(1), 60–68.

Han, S.-H., & Lind, C. J. (2017). Putting powerfulness in its place: A study on discursive style in public discussion and its impact. *Argumentation and Advocacy*, 53(3), 216–233.

Hart, R. P., & Childers, J. P. (2004). Verbal certainty in american politics: An overview and extension. *Presidential Studies Quarterly*, 34(3), 516–535.

- Hayes, A. F. (2013). *Introduction to Mediation, Moderation, and Conditional Process Analysis—A Regression-based Approach*. New York: The Guilford Press.
- Herrbach, O., Mignonac, K., & Gatignon, A.-L. (2004). Exploring the role of perceived external prestige in managers' turnover. *The International Journal of Human Resource Management*, 15(8), 1,390–1,407.
- Hewett, K., Rand, W., Rust, R. T., & van Heerde, H. J. (2016). Brand buzz in the echovse. *Journal of Marketing*, 80(3), 1–24.
- Hofstede, F., Steenkamp, J.-B. E. M., & Wedel, M. (1999). International market segmentation based on consumer-product relations. *Journal of Marketing Research*, 36(February), 1–17.
- Hofstede, G., Hofstede, J., & Minkov, M. (2010). *Cultures and Organizations: Software of the Mind Revised and Expanded 3rd ed.* New York: McGraw-Hill.
- Hollebeck, L. D., Glynn, M. S., & Brodie, R. J. (2014). Consumer brand engagement in social media: Conceptualization, scale development, and validation. *Journal of Interactive Marketing*, 28, 149–165.
- Hollebeck, L. D., & Macky, K. (2019). Digital content marketing's role in fostering consumer engagement, trust, and value: Framework, fundamental propositions, and implications. *Journal of Interactive Marketing*, 45, 27–41.
- Inkeles, A. (1960). Industrial man: The relation of status to experience, perception, and value. *American Journal of Sociology*, 75, 208–225.
- Karmarkar, U. M., & Tormala, Z. L. (2010). Believe me, I have no idea what I'm talking about: The effects of source certainty on consumer involvement and persuasion. *Journal of Consumer Research*, 36(6), 1033–1049.
- Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological Review*, 110(2), 265–284.
- Kim, Y. (2014). Convolutional neural networks for sentence classification. *Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing*, Doha, Qatar, 1746–1751.
- Kim, Y., & Zhang, Y. (2014). The impact of power-distance belief on consumers' preference for status brands. *Journal of Global Marketing*, 27, 13–29.
- Kraus, M. W., Chen, S., & Keltner, D. (2011). The power to be me: Power elevates self-concept consistency and authenticity. *Journal of Experimental Social Psychology*, 47(5), 974–980.
- Kronrod, A., Grinstein, A., & Wathieu, L. (2012). Enjoy! Hedonic consumption and compliance with assertive messages. *Journal of Consumer Research*, 39(1), 51–61.
- Lammers, J., Stoker, J. I., Rink, F., & Galinsky, A. D. (2016). To have control over or to be free from others? The desire for power reflects a need for autonomy. *Personality and Social Psychology Bulletin*, 42(4), 498–512.
- Lee, D., Hosanagar, K., & Nair, H. S. (2018). Advertising content and consumer engagement on social media: Evidence from Facebook. *Management Science*, 64(11), 4,967–5,460.
- Leek, S., Houghton, D., & Canning, L. (2019). Twitter and behavioral engagement in the healthcare sector: An examination of product and service companies. *Industrial Marketing Management*, 81, 115–129.
- Lenski, G. E. (1966). *Power and Privilege: A Theory of Social Stratification*. New York: McGraw-Hill.
- Liu, A. X., Xie, Y., & Zhang, J. (2019). It's not just what you say, but how you say it: The effect of language style matching on perceived quality of consumer reviews. *Journal of Interactive Marketing*, 46, 70–86.
- Magee, J. C., & Galinsky, A. D. (2008). Social hierarchy: The self-reinforcing nature of power and status. *The Academy of Management Annals*, 2(1), 351–398.
- Mangold, G. W., & Faulds, D. J. (2009). Social media: The new hybrid element of the promotion mix. *Business Horizons*, 52, 357–365.
- Mochon, D., Johnson, K., Schwartz, J., & Ariely, D. (2018). What are likes worth? A Facebook page field experiment. *Journal of Marketing Research*, 54(2), 306–317.
- Moe, W. W., & Ratchford, B. T. (2018). How the explosion of customer data has redefined interactive marketing. *Journal of Interactive Marketing*, A1–A2.
- Na, W. B., Marshall, R., & Keller, K. L. (1999). Measuring brand power: Validating a model for optimizing brand equity. *Journal of Product & Brand Management*, 8(3), 170–184.
- Nambisan, S., & Baron, R. A. (2007). Interactions in virtual customer environments: Implications for product support and customer relationship management. *Journal of Interactive Marketing*, 21(2), 42–62.
- Ordenes, F. V., Grewal, D., Ludwig, S., De Ruyter, K., Mahr, D., & Wetzels, M. (2018). Cutting through content clutter: How speech and image acts drive consumers sharing of social media brand messages. *Journal of Consumer Research*, 45, 988–1012.
- Peer, E., Brandimarte, L., Samat, S., & Acquisti, A. (2017). Beyond the turk: Alternative platforms for crowdsourcing behavioral research. *Journal of Experimental Social Psychology*, 70, 153–163.
- Pennebaker, J. W. (2011). *The Secret Life of Pronouns: What Our Words Say About Us*. New York: Bloomsbury Press.
- Pennebaker, J. W., Boyd, R. L., Jordan, K., & Blackburn, K. (2015). *The Development and Psychometric Properties of LIWC2015*. Austin, TX: University of Texas at Austin.
- Pennebaker, J. W., & Chung, C. K. (2013). Counting little words in big data: The psychology of individuals, communities, culture, and history. In J.P. Forgas, O. Vincze & J. Laszlo (Eds.) *Social Cognition and Communication* (pp. 25–25). New York: Psychology Press.
- Pennebaker, J. W., Chung, C. K., Ireland, M., Gonzales, A., & Booth, R. J. (2007). *The Development and Psychometric Properties of LIWC2015*. Austin, TX: University of Texas at Austin.
- Pew Research Center (2019). Social Media Fact Sheet. Retrieved on April 4, 2020 from <https://www.pewresearch.org/internet/fact-sheet/social-media/>.
- Price, P. C., & Stone, E. R. (2004). Intuitive evaluation of likelihood judgment producers: Evidence for a confidence heuristic. *Journal of Behavioral Decision Making*, 17, 39–57.
- Proyer, R. T., & Brauer, K. (2018). Exploring adult playfulness: Examining the accuracy of personality judgments at zero-acquaintance and an LIWC analysis of textual information. *Journal of Research in Personality*, 73, 12–20.
- Pullig, C., Netemeyer, R. G., & Biswas, A. (2006). Attitude basis, certainty, and challenge alignment: A case of negative brand publicity. *Journal of the Academy of Marketing Science*, 34(4), 528–542.
- Roth, M. S. (1995). The effect of culture and socioeconomics on the performance of global brand image strategies. *Journal of Marketing Research*, 32(2), 163–175.
- Rucker, D. D., & Petty, R. E. (2006). Increasing the effectiveness of communications to consumers: Recommendations based on elaboration likelihood and attitude certainty perspectives. *Journal of Public Policy and Marketing*, 25(1), 39–52.
- Rucker, D. D., Tormala, Z. L., Petty, R. E., & Briñol, P. (2014). Consumer conviction and commitment: An appraisal-based framework for attitude certainty. *Journal of Consumer Psychology*, 24(1), 117–136.
- Sawhney, M., Verona, G., & Prandelli, E. (2005). Collaborating to create: The Internet as a platform for customer engagement in product innovation. *Journal of Interactive Marketing*, 19(4), 4–17.
- See, K. E., Morrison, E. W., Rothman, N. B., & Soll, J. B. (2011). The detrimental effect of power on confidence, advice taking, and accuracy. *Organizational Behavior and Human Decision Processes*, 116, 272–285.
- Shields, C. G., Finley, M. A., Elias, C. M., Coker, C. J., Griggs, J. J., & Fiscella, K., et al (2013). Pain assessment: The role of physician certainty and curiosity. *Health Communication*, 7, 740–746.
- Smith, A. N., Fischer, E., & Yongjian, C. (2012). How does brand-related user-generated content differ across YouTube, Facebook, and Twitter? *Journal of Interactive Marketing*, 26, 102–113.
- Tausczik, Y. R., & Pennebaker, J. W. (2010). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology*, 29(1), 24–54.
- Tuu, H. H., Olsen, S. O., & Linh, P. T. T. (2011). The moderator effects of perceived risk, objective knowledge and certainty in the satisfaction-loyalty relationship. *Journal of Consumer Marketing*, 2(9/10), 977–1,004.
- Wakefield, L. T., & Wakefield, R. L. (2018). Anxiety and ephemeral social media use in negative eWOM creation. *Journal of Interactive Marketing*, 41, 44–59.
- Wang, Z., & Kim, H. G. (2017). Can social media marketing improve customer relationship capabilities and firm performance? Dynamic capability perspective. *Journal of Interactive Marketing*, 39, 15–26.

- Warren, C., Pezzuti, T., & Koley, S. (2018). Is being emotionally inexpressive cool. *Journal of Consumer Psychology*, 28(4), 560–577.
- Winterich, K. P., Gangwar, M., & Grewal, R. (2018). When celebrities count: Power distance beliefs and celebrity endorsements. *Journal of Marketing*, 82(3), 70–86.
- Yoo, B., Donthu, N., & Lenartowicz, T. (2011). Measuring Hofstede's five dimensions of cultural values at the individual level: Development and validation of CVSCALE. *Journal of International Consumer Marketing*, 23(3–4), 193–210.
- Yun, G. W., Park, S.-Y., & Ha, L. (2008). Influence of cultural dimensions on online interactive review feature implementations: A comparison of Korean and US retailers web sites. *Journal of Interactive Marketing*, 22(3), 40–50.