


# Not Like the Rest of Us? How CEO Celebrity Affects Quarterly Earnings Call Language

Timothy G. Pollock 

University of Tennessee–Knoxville

Roberto Ragozzino 

Universidade Nova de Lisboa - NOVA SBE

Dane P. Blevins 

University of Central Florida

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*In this study we explore whether celebrity CEOs use certain types of language that affect stakeholders' perceptions more than noncelebrity CEOs do during earnings calls. We focus specifically on the sociocognitive processes associated with possessing celebrity and how they are likely to influence celebrity CEOs' language use. We argue that the sociocognitive outcomes associated with the confidence and sense of authority resulting from the CEOs' celebrity will increase the likelihood they use more relatively positive, concrete, certain, and self-regarding language, all of which can influence stakeholders' reactions. We also distinguish between A-list and B-list celebrities, and expect greater celebrity will result in greater language attribute use. Based on 8,203 quarterly earnings call transcripts involving celebrity and noncelebrity CEOs, we find general support for our hypotheses. A-list celebrities employ all four language attributes more than both B-list celebrities and noncelebrities, but B-list celebrities differ from noncelebrities only with respect to some language attributes. Our study contributes to the celebrity literature by enhancing our understanding of how achieving celebrity, and the degree of celebrity achieved, affects CEOs' behaviors. We also contribute to the corporate communications literature by demonstrating how the sociocognitive processes and outcomes associated with CEO celebrity affect language use that can influence stakeholders' confidence in what the CEO says, even if it reveals no new information.*

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*Corresponding author: Timothy G. Pollock, University of Tennessee–Knoxville, 410 Stokely Management Center, 916 Volunteer Blvd., Knoxville, TN 37996, USA.*

*E-mail: [tpollock@utk.edu](mailto:tpollock@utk.edu)*

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Should celebrities be treated differently than the rest of us? Yes, because we insist that they be different!

—*Celebrity Source*, May 15, 2017

CEOs were long treated as faceless organization men (Khurana, 2002), but starting with Chrysler CEO Lee Iacocca, the past 40 years have seen the rise of the celebrity CEO (Khurana, 2002; Meindl, Ehrlich, & Dukerich, 1985). The media casts celebrity CEOs as larger-than-life individuals (Hayward, Rindova, & Pollock, 2004; Treadway, Adams, Ranft, & Ferris, 2009) with the vision and valor needed to create new firms and industries, turn failing firms around, rebel against the status quo to shake up staid industries, and see over the horizon to move their firms in new directions before others recognize the need or opportunity (Lovelace, Bundy, Hambrick, & Pollock, 2018), suggesting CEO celebrity can play an important role in strategic leadership.

CEO celebrity is defined as “the extent to which a CEO elicits positive emotional responses from a broad public audience” (Lovelace et al., 2018: 421). Celebrity CEOs’ influence comes from audiences’ emotional connections with, and reactions to, celebrity CEOs’ bold, nonconforming actions (Hayward et al., 2004; Rindova, Pollock, & Hayward, 2006) and the positive emotional responses they generate as audiences live vicariously through their exploits (Gamson, 1994; Lovelace, Bundy, Pollock, & Hambrick, 2022; Pollock, Lashley, Rindova, & Han, 2019; Rindova et al., 2006). Anecdotal stories abound of the special treatment celebrities receive because their celebrity makes them different, and prior research has shown celebrity generates significant benefits for CEOs: Celebrity CEOs have greater access to resources and opportunities (Malmendier & Tate, 2009), they are paid more for the same successes as noncelebrities (Wade, Porac, Pollock, & Graffin, 2006), and their top management team (TMT) members are more likely to become CEOs themselves (Graffin, Wade, Porac, & McNamee, 2008).

However, despite the important role that celebrity CEOs’ behaviors are believed to play (Gao, Yu, & Cannella, 2016; Lovelace et al., 2018), scholars have given limited attention (Neely, Lovelace, Cowen, & Hiller, 2020) to studying the relationship between CEO celebrity and CEOs’ behaviors—in particular, how they use language to influence others’ perceptions and actions. Management scholars have long been interested in how companies’ public communications influence stakeholders’ perceptions (e.g., Graffin, Carpenter, & Boivie, 2011; Martens, Jennings, & Jennings, 2007; Pan, McNamara, Lee, Haleblan, & Devers, 2018; for a review, see Gao et al., 2016). Most of these studies have focused on the ways firms—and sometimes CEOs—use language to influence stakeholders (e.g., Graffin et al., 2011; Huang, Joshi, Wakslak, & Wu, 2021). However, there is limited research on how social evaluations, like celebrity, affect CEOs’ language use (Gao et al., 2016). This is important because if words can move markets, do celebrity CEOs use words that noncelebrities do not?

We explore whether celebrity CEOs more frequently employ four language attributes—relative positivity, concreteness, certainty, and self-regard—that can affect stakeholders’ perceptions and if these effects vary based on the magnitude of the CEO’s celebrity. We focus specifically on the sociocognitive processes associated with possessing celebrity and how they are likely to influence celebrity CEOs’ language use. Gao et al. (2016) noted that scholars have given limited attention to how CEO characteristics influence the language used in public communications, and they specifically identified CEO celebrity as an issue worthy of study, noting, “We expect that celebrity CEOs . . . are also more likely to leverage their public images by using language to influence stakeholders and competitors” (Gao et al., 2016: 42). If celebrity CEOs use language in ways that prior research has shown influence stakeholders’ actions, then firms may benefit from CEO celebrity in ways that research has thus far failed to recognize (Malmendier & Tate, 2009; Wade et al., 2006).

Building on recent research (Lovelace et al., 2022) distinguishing among “A-list,” “B-list,” and noncelebrities, we assess the language attributes used in 8,203 quarterly earnings call transcripts involving celebrity and noncelebrity CEOs.<sup>1</sup> Earnings calls involve executives—typically the chief executive and financial officers—communicating directly with stock analysts in a public forum. In addition to making scripted statements, the executives also field questions from the analysts in more spontaneous question-and-answer sessions (Q&As) (Lee, 2016). These unscripted Q&As offer an excellent opportunity to observe CEOs’ unmediated language use and how it is affected by their degree of celebrity. We find that A-list celebrity CEOs employ relatively more positive, concrete, and certain language than noncelebrities and that both A-list and B-list celebrities use relatively more self-regarding language, talk more about achievements, and are less tentative than noncelebrities, all which can have implications for how stakeholders react to their firms’ actions and outcomes. Further, we find that CEOs with the greatest celebrity (i.e., A-list celebrities; Lovelace et al., 2022) use these language attributes the most. In exploring these issues and tying them to prior research on the effects of language use, we contribute to the literatures on celebrity and the strategic use of language in corporate communications.

First, we contribute by advancing our theoretical understanding of how celebrity CEOs interact with their audiences, an important relationship that has received limited attention (Neely et al., 2020) and demonstrate that differences exist not just between celebrity and non-celebrity CEOs but also between CEOs with different degrees of celebrity. We also enhance our understanding of how celebrity shapes the CEOs’ own actions (Lovelace et al., 2018). Most of the scholarly attention to celebrity has been on attaining celebrity (Lovelace et al., 2022; Rindova et al., 2006) and the extrinsic benefits celebrity generates (e.g., Hayward et al., 2004; Rindova et al., 2006; Treadway et al., 2009). Scholars have only begun to consider how a CEO’s celebrity affects their behaviors (e.g., Lovelace et al., 2018) and have not considered how this influence differs based on the magnitude of a CEO’s celebrity.

Second, we contribute to theory on strategic language use in corporate communications by demonstrating how the sociocognitive processes and outcomes associated with CEO celebrity affect language that can influence stakeholders’ confidence in what the CEO says, even if it reveals no new information. Given that corporate communications are carefully managed sensemaking and sensegiving events (König, Mammen, Luger, Fehn, & Enders, 2018) where executives and the firm’s stakeholders socially construct the outcomes (Ginzel, Kramer, & Sutton, 1993), understanding the factors that influence this process is important.

We show that CEO celebrity increases the use of language that prior research has found influences different market outcomes (e.g., Hales, Kuang, & Venkataraman, 2011; König et al., 2018; Matsumoto, Pronk, & Roelofsen, 2011; Pan et al., 2018) and that CEOs achieving the highest rungs of celebrity use this language the most.

## Theory and Hypotheses

### *Celebrity CEOs*

Celebrities are modern-day heroes (Gamson, 1994); we thrill to their exploits (Rindova et al., 2006), have faith in their abilities to overcome challenges (Lovelace et al., 2018), and ascribe credit to them for outcomes they may or may not actually influence (Hayward et al., 2004; Khurana, 2002). CEOs are often the “face of the firm” (Love, Lim, & Bednar, 2017), and their actions can affect a variety of firm outcomes (Graffin, Pfarrer, & Hill, 2012; Love et al., 2017; Quigley & Hambrick, 2015; Treadway et al., 2009). Audiences’ positive emotional reactions to celebrity CEOs and attention to their behaviors underly the value this social evaluation creates (Pollock et al., 2019; Rindova et al., 2006) and thus its ability to influence others’ decision making and behaviors (Slovic, Finucane, Peters, & MacGregor, 2007). Celebrity therefore differs from other social evaluations, such as reputation, status, infamy, and fame. As others have discussed (e.g., Lovelace et al., 2018; Pollock et al., 2019; Rindova et al., 2006), reputation is based on the consistency and quality of actors’ activities and outputs, status is derived from an actor’s relative standing in a social order, infamy is driven by negative emotional responses from a broad audience, and fame results from the sheer volume of attention, regardless of its emotional valence.

Celebrity is also distinct from hubris (Hayward, 2007; Hayward & Hambrick, 1997), core self-evaluation (CSE; Hiller & Hambrick, 2005), and narcissism (Chatterjee & Hambrick, 2007; Chatterjee & Pollock, 2017; Lovelace et al., 2018). Hubris, defined as “the damaging consequences that arise from decisions and actions that reflect false confidence and the resulting overconfidence” (Hayward, 2007: xiii), is an explicitly negative outgrowth of overconfidence. Thus hubris can be a consequence of celebrity, but it is not a substitute.

In contrast to hubris, CSE and narcissism are personality traits that can be antecedents to celebrity. CSE encompasses the overlapping portions of self-esteem, self-efficacy, locus of control, and emotional stability (Hiller & Hambrick, 2005) that affect an individual’s self-assessment of their abilities. CSE can enhance an individual’s confidence to take actions that result in becoming a celebrity, but it is not the same as celebrity, which is a media construct. Narcissistic CEOs are defined as “those who have very inflated self-views and who are preoccupied with having those self-views continuously reinforced” (Chatterjee & Hambrick, 2007: 351). Although narcissists are likely to pursue celebrity’s acclaim and influence (Chatterjee & Pollock, 2017), many non-narcissists also pursue celebrity for a variety of reasons, and others do not pursue celebrity but have it thrust upon them (Lovelace et al., 2018, 2022)—and not all who pursue celebrity achieve it. Thus, there are narcissistic CEOs who are not celebrities and celebrity CEOs who are not narcissists.

CEO celebrity has sociocognitive effects that are likely reflected in the CEO’s language use. Lovelace et al. (2018) argued that becoming a celebrity enhances CEOs’ confidence, particularly in the behaviors that have led them to become celebrities. Although CEOs already

tend to display high levels of confidence in their abilities (Hiller & Hambrick, 2005), the praise and reinforcement celebrity CEOs receive from others (Koestner, Zuckerman, & Koestner, 1987) enhances their confidence beyond this already high baseline level (Lovelace et al., 2018). Thus, celebrity CEOs are more likely to believe in the rightness of their conclusions and that they can execute on their claims and assertions. Lovelace et al. (2018: 428) further argued that celebrity enhances a CEO's sense of authority, or "perceived *right* to act" because individuals are more likely to show them deference (Anderson, Willer, Kilduff, & Brown, 2012; De Cremer & Tyler, 2007; Hayward et al., 2004), which increases their sense of power and authority (Keltner, Gruenfeld, & Anderson, 2003).

Treadway et al. (2009) further noted that the attention afforded celebrities offers opportunities to behave in ways consistent with the positive expectations their celebrity creates—which we argue includes the language they use. Consistent with this insight, in studying the effects of celebrity on college basketball players, Adler and Adler (1989) found that the media's coverage created distorted or exaggerated reflections of the athletes' behaviors and self-conception—which they called the "gloried self"—that many players eventually internalized, leading them to equate the team's success with their own capabilities and increasing the likelihood they believed they were primarily responsible for the team's outcomes.

We argue that celebrity CEOs will more frequently use language attributes that reflect their greater confidence, sense of authority, internalized responsibility for organizational outcomes, and desire to project a positive message that reinforces their celebrity. We further argue that celebrity CEOs will vary in their language usage depending on their degree of celebrity. Pollock et al. (2019) noted that celebrity's ordinal nature creates opportunities to explore celebrity in a more nuanced way. Building on this insight, Lovelace et al. (2022) developed theory based on media routines to explain why a few CEOs are likely to get disproportionately more attention than other CEOs, becoming "A-list" celebrities, whereas those with more moderate coverage will become "B-list" celebrities, and the vast majority of CEOs will be noncelebrities. We theorize that A-list celebrity CEOs will be even more likely than B-list celebrity CEOs to employ these language attributes because their extreme celebrity will lead to the highest levels of confidence, sense of authority, and internalized responsibility for outcomes, and that B-list celebrities will exhibit greater use of the language attributes than noncelebrities.

### *Language and Corporate Communications*

Management, accounting, and finance scholars have studied how the language in public communications affects firms' abilities to enhance their legitimacy, resources, and market positions (Gao et al., 2016). Scholars have most often focused on whether and how CEOs use language to reduce information asymmetries and uncertainty (Bushee, Gow, & Taylor, 2018; Pan et al., 2018; Whittington, Yakis-Douglas, & Ahn, 2016), influence investment decisions (e.g., Hales et al., 2011; Huang et al., 2021), and alter the media and analysts' assessments (Allee & Deangelis, 2015; König et al., 2018). Indeed, as König et al. (2018: 1197) noted, "CEOs are hard-pressed not only to carefully select the details they wish to share with infomediaries but also to package that information in a way that reduces complexity, and swiftly and subtly steers infomediaries' attention toward a positive interpretation."

While some have focused on the messages' content (e.g., Bushee et al., 2018; Fanelli, Misangyi, & Tosi, 2009; Matsumoto et al., 2011), others have considered their language attributes (e.g., Guo, Yu, & Gimeno, 2017; König et al., 2018; Pan et al., 2018). "Language attributes encompass almost every aspect of language including its sound system (phonology), rules and structure of sentences (syntax), and words (lexicon) . . . play an important role in whether or not audiences find speakers' overall messages persuasive . . . [and] are an effective tool for managing audiences' impressions because they influence the quality of message delivery" (Pan et al., 2018: 2205–2207). Pan and colleagues (2018) showed specifically that the relative concreteness of language had a positive effect on analysts' responses to earnings announcements. However, while scholars have shown that different language attributes are influential in shaping stakeholders' perceptions, they have given less attention to factors that influence the likelihood CEOs will employ particular language attributes. We argue that one important factor driving CEO language that can also affect the CEO's strategic actions is whether the CEO is a celebrity.

### *The Influence of CEO Celebrity on the Language Used in Earnings Calls*

We argue that the sociocognitive outcomes and behavioral aspects of CEO celebrity discussed earlier will affect the language attributes celebrity CEOs use during earnings calls, and focus specifically on language attributes that can influence affective decision making (Loewenstein, Weber, Hsee, & Welch, 2001; Slovic et al., 2007). Slovic et al. (2007) argued that people frequently employ an affect heuristic when making judgments, consciously or unconsciously tagging objects and events in their minds with different amounts of affect. They then consult these positive and negative affective tags when making judgments about the object or event. We focus on four language attributes that are likely related to celebrity CEOs' confidence and senses of authority and responsibility that can stimulate positive affect in others, and that prior research has shown can have significant consequences for stakeholders as they interpret what the CEO says during earnings calls (e.g., Allee & Deangelis, 2015; Bushee et al., 2018; Hansen & Wänke, 2010; Pan et al., 2018; Smith & Ellsworth, 1985): positivity, concreteness, certainty, and self-regard.

*Positivity* refers to using relatively more positive than negative language. Positive language includes words involving the general expression of positive feelings or attributes (Berry, Pennebaker, Mueller, & Hiller, 1997; Pennebaker & Francis, 1996) that make the communicator more likeable, creating a positive emotional state in the receiver (Chaiken, 1980). Further, individuals prefer simple, consistent explanations for complex behaviors (Heider, 1958; Love et al., 2017), and positive emotional states increase the likelihood individuals will use a simpler affective heuristic rather than more complex analytical information processing, making them easier to persuade (Chaiken, 1980; Hubbard, Pollock, Pfarrer, & Rindova, 2018; Loewenstein et al., 2001).

Prior research has also shown that mood congruence—that is, consistency in a person's mood and thoughts—increases the persuasiveness of information that is consistent with the individual's emotional state. (DeSteno, Petty, Rucker, Wegener, & Braverman, 2004; Mayer, Gaschke, Braverman, & Evans, 1992). Thus if a person is in a positive mood—for example, because they are listening to a celebrity CEO for whom they have positive affect—negative language would diminish their positive emotional reactions (Rozin &

Royzman, 2001; Smith & Ellsworth, 1985). This is consistent with Love et al.'s (2017: 1464) observation that "the tendency to see leaders as highly influential is likely further reinforced by managers' impression-management efforts, in which they tend to present accounts that focus on positive outcomes and actively attribute these to their leadership capabilities and strategic acumen."

Allee and Deangelis (2015) explored how the dispersion of positive and negative language in earnings calls affected different outcomes. They found that analysts responded more favorably when negative language was concentrated and when positive language was dispersed throughout the call. They also found that the relative balance of positive and negative language was more important than either alone. Thus, their study provides some evidence that relative positivity is an important language attribute that affects stakeholders' behaviors.

As audiences are already positively predisposed toward celebrities, the extent to which celebrity CEOs use more positive than negative language should establish mood congruence that makes audiences even more accepting of celebrity CEOs' claims (DeSteno et al., 2004). Since celebrity is derived from audiences' positive emotional reactions to the CEO, celebrity CEOs will therefore reinforce the positive emotions that others already feel toward them when they use relatively more positive language (Mayer et al., 1992). Their greater confidence that they can achieve what they claim should also increase their relative positivity (Hayward et al., 2004). We therefore hypothesize:

*Hypothesis 1a:* A-list and B-list celebrity CEOs' language will exhibit more positivity (use relatively more positive than negative language) compared with noncelebrity CEOs' language.

*Hypothesis 1b:* A-list celebrity CEOs' language will exhibit more positivity than B-list celebrity CEOs' language.

*Concreteness.* Concreteness is the degree to which the words provide details and contextualize a message (Pan et al., 2018). Pan and colleagues (2018) noted that concrete language is persuasive because it increases audiences' familiarity and ease of understanding (Larrimore, Jiang, Larrimore, Markowitz, & Gorski, 2011). Concrete language also improves accessibility (Semin & Fiedler, 1988), increases outcome satisfaction (Packard & Berger, 2021) and enhances perceptions that speakers' using more concrete language are competent and trustworthy (Eagley & Chaiken, 1993; Hansen & Wänke, 2010), all of which can enhance affective decision making. Pan and colleagues found that CEOs' use of relatively more concrete than abstract language in earnings calls led to more positive investor reactions. Guo, Sengul, and Yu (2021) also found that language that was easier to understand enhanced investor's opinion formation about firms. However, concrete language and statements are also easier to disconfirm (Semin & Fiedler, 1988); thus, using more abstract language may be desirable when individuals want to avoid being proved wrong (Maass, Salvi, Arcuri, & Semin, 1989) or when they want to inhibit others from taking actions (Guo et al., 2017). Using relatively more concrete than abstract language should therefore decrease stakeholders' perceived uncertainty about the CEO's truthfulness and the actions they expect the firm to take.

We argue that celebrities' greater confidence, sense of authority, and desire to demonstrate their credibility (Treadway et al., 2009) will lead them to use relatively more concrete than abstract language during earnings calls because they have a greater belief in the accuracy



of their perceptions and ability to deliver on their claims (Adler & Adler, 1989; Lovelace et al., 2018), and are less concerned about being challenged. Further, even if they are challenged or proven wrong, prior research has found that the positive emotions celebrities engender in their audiences can buffer them from the consequences of negative outcomes (Pfarrer, Pollock, & Rindova, 2010). Thus, celebrity CEOs are less likely than noncelebrities to be penalized if they make concrete pronouncements that turn out to be inaccurate, further reducing their need to employ abstract language as a means of avoiding erroneous claims. We therefore hypothesize:

*Hypothesis 2a:* A-list and B-list celebrity CEOs' language will exhibit more concreteness (use relatively more concrete than abstract language) compared with noncelebrity CEO's language.

*Hypothesis 2b:* A-list celebrity CEOs' language will exhibit more concreteness than B-list celebrity CEO's language.

*Certainty.* Investors and analysts are constantly on a quest to reduce the uncertainty that comes with information asymmetries (Babrow, 2001; Bushee et al., 2018; Pan et al., 2018). Like concrete language, certain language is more likely to reduce perceived information asymmetries and increase positive affect (Smith & Ellsworth, 1985), whereas uncertain language is likely to have the opposite effects (Eisenberg, 1984). Certain language enhances clarity, which can reduce perceived uncertainty and stimulate action (Eisenberg, 1984; Guo et al., 2017) and enhance access to resources (Martens et al., 2007) because—right or wrong—you think you know what someone will do. At the same time, uncertain or vague language can inhibit others' actions (Eisenberg, 1984; Guo et al., 2017), which can be a benefit, and creates the opportunity to interpret the information in different ways. For example, Guo et al. (2017) showed that using vaguer language in annual reports reduced competitors' market entries when the threat of entry is high; however, Guo, Sengul, and Yu (2020) also found that using vaguer and more complex language to explain negative earnings surprises signaled vulnerability and increased the likelihood of competitive attacks. Thus, managers may be more likely to use certain language when they perceive fewer threats or are confident in their outcomes.

Using relatively more certain than uncertain language aligns with stakeholders' conceptions of celebrity CEOs as leaders who are competent and trustworthy (Eagley & Chaiken, 1993) and in control of their firms' fates (Hayward et al., 2004; Treadway et al., 2009). Their willingness to directly communicate reinforces the positive affect their celebrity generates and reinforces their celebrity image. Combined with celebrity CEOs' increased confidence in their abilities and sense of authority (Adler & Adler, 1989; Hayward et al., 2004; Lovelace et al., 2018), which likely increases their belief that they will be successful in accomplishing their aims, we expect celebrity CEOs' language will exhibit more relative certainty than noncelebrity CEO's language. We therefore hypothesize:

*Hypothesis 3a:* A-list and B-list celebrity CEOs' language will exhibit more certainty (use relatively more certain than uncertain language) compared with noncelebrity CEO's language.

*Hypothesis 3b:* A-list celebrity CEOs' language will exhibit more certainty than B-list celebrity CEO's language.



*Self-regard.* Finally, CEOs provide important information about who is responsible for organizational outcomes through their pronoun choices (Pan et al., 2018), and receiving positive feedback increases this self-focus and self-esteem (Davis & Brock, 1975). Research on individuals with high self-regard has shown they are more likely to use first-person pronouns (e.g., “I,” “me,” “my,” “mine,” “myself”) in their public communications (Chatterjee & Hambrick, 2007; Davis & Brock, 1975; Raskin & Shaw, 1988). The positive affect celebrity generates, and that enhances celebrity CEOs’ confidence and sense of authority, can thus make them more likely to claim responsibility for the firms’ outcomes and see themselves as primarily responsible for their achievements (Adler & Adler, 1989; Hayward et al., 2004; Lovelace et al., 2018); thus, we argue they are also likely to use more language that reflects their self-regard and accomplishments rather than language that includes or gives credit to others (Davis & Brock, 1975). Similarly, because they are more self-regarding and self-focused, we expect celebrity CEOs will give less consideration to others (Adler & Adler, 1989; Chatterjee & Pollock, 2017; Wallace & Baumeister, 2002) and thus be less likely to use second-person (e.g., “you,” “your,” “they”) than first-person pronouns during earnings calls. We therefore hypothesize the following:

*Hypothesis 4a:* A-list and B-list celebrity CEOs will use more self-regarding (relatively more self-focused than other-focused) language compared with noncelebrity CEOs’ language.

*Hypothesis 4b:* A-list celebrity CEOs’ language will use more self-regarding language than B-list celebrity CEO language.

## Data and Methods

*Earnings call context.* Earnings calls offer a rare glimpse into CEOs’ thinking through the language they employ. The unscripted Q&A sessions can be especially challenging—particularly when CEOs are defending poor performance—and CEOs’ frustrations can show. For example, Elon Musk abruptly ended an earnings call by stating an analyst’s questions were “so dry, they’re killing me,” and Cleveland-Cliff CEO Lourenco Goncalves berated a research analyst, calling the analyst a “disaster” and an “embarrassment to their parents” (Assis, 2018). CEOs’ language can get a bit salty, too. For example, Netflix CEO Reed Hastings once referred to HBO as “Netflix’s bitch” (Stenovec, 2014), and JPMorgan Chase CEO Jamie Dimon noted to an analyst that his bank sometimes steps in “dog shit” when handling its legal issues (Zeitlin, 2015).

Beyond these colorful attention-getting examples, the interactive language featured during earnings calls can have a material impact on the firm’s stock performance as well as its media attention and sentiment (König et al., 2018; Pan et al., 2018). One of Twitter’s earnings calls nicely illustrates how what the CEO says during these calls can move markets (Kuitenbrouwer, 2015). In July of 2015, Twitter announced its earnings via a written press release following the market close, after which its stock jumped about 10% in after-hours trading. Its climb continued during the CEO’s and executives’ opening statements; however, stakeholders’ perceptions shifted during the Q&A session. CEO Jack Dorsey’s answers to the analysts’ questions led the stock to reverse its positive course, declining more than 15% by the end of the next trading day. Numerous media articles singled out

Dorsey's specific comments, like "We haven't done a great job at aligning the entire company around our total audience strategy," as the source of shareholder angst.

Further, as algorithmic trading has increased, so have ancillary businesses whose specific purpose is to give their clients an edge by analyzing the words used in earnings calls (and other corporate communications). For example, one company—Business Intelligence Advisors—uses a Central Intelligence Agency lie detection process to codify the language used by CEOs and executives (MacBride, 2015). These examples help demonstrate the real-world importance of understanding the language CEOs use in earnings calls.

*Sample data sources.* We employed a variety of data sources. First, we obtained the written transcripts of firms' quarterly earnings calls through Seeking Alpha, a crowdsourced organization catering to worldwide financial investors and offering financial data and information on publicly traded companies. It collected more than 103,000 transcripts from 2006 to 2017, covering about 4,500 of the 6,100 companies trading on the New York Stock Exchange (NYSE) and Nasdaq.<sup>2</sup> We coded our dependent variables using the transcripts' Q&As.<sup>3</sup>

The transcripts identify each call participant, their role, and what they said. There are three main types of participants: (a) executives, who convey information about their firms' performance and strategies; (b) analysts, who ask the executives questions; and (c) the operator, who facilitates the call. We removed the operator's comments since their role is unrelated to understanding the executives' language. Our final transcript data included roughly 6.5 million observations containing the speaker's identity, their affiliation, title, and the exact words spoken, allowing us to analyze each speaker's content separately. To the best of our knowledge, prior earnings call studies have not replicated this combination of level of precision and scale.

The rest of our data came from several other sources. First, we used Lexis-Nexis Academic Universe to access the newspaper articles needed to operationalize CEO celebrity (discussed later). We also drew accounting data from Compustat quarterly filings and data on financial analysts' earnings forecasts from I/B/E/S. Because we had to first identify which calls involved celebrity CEOs to construct our sample, we describe how we created the CEO celebrity measure next, then describe how we reached our final sample.

*CEO celebrity.* A relatively unique feature of our study is that the analyses involved several dependent variables, with CEO celebrity as the sole theoretical predictor (see Chatterjee & Hambrick, 2007, for a similar approach). Because we wanted to compare celebrity CEOs' and noncelebrity CEOs' language, to the extent possible we sought to create a setting where the observations differed only along the celebrity CEO dichotomy (we then distinguished between A-list and B-list celebrity CEOs). Moreover, the demarcation of celebrity and noncelebrity CEOs should be defined by exogenous forces. We recognize that most archival investigations, including ours, do not allow for a truly experimental setting; however, we took several steps to approximate these conditions more closely.

First, we separated A- and B-list celebrity CEOs from noncelebrity CEOs. Consistent with prior work, we started with the measure created by Pfarrer et al. (2010), using news articles on a CEO and their firm leading up to a focal event. Pfarrer et al. defined celebrities as actors who were among the top firms in both the volume of news coverage and positive emotional words in the articles in a given year.<sup>4</sup> Therefore, we began by collecting news articles about CEOs in our sample from Lexis-Nexis, drawing from the 14 most-followed newspapers in the United States for the years 2005 to 2016.<sup>5</sup> The articles had to appear during the four quarters leading

up to the earnings call and had to contain the company name and the first and last name of the company's CEO in their bodies. Thus, unlike other studies focused on firm celebrity (e.g., Hubbard et al., 2018; Pfarrer et al., 2010), we considered only news articles in which *both* the company's and the CEO's name were mentioned. This helped ensure the articles we coded were about the firms' CEOs and not someone else with the same name, and that they were about the CEO and not just the firm.

This resulted in 40,994 news articles that met our inclusion criteria. We then content analyzed the articles for positive and negative linguistic properties. Specifically, we counted the instances of positive and negative emotion words using the corresponding Loughran and McDonald (2014) dictionaries (which they developed for financial communications) and assessed the positive emotional content of the articles by dividing the total positive emotion words by the sum of the positive and negative emotion words.<sup>6</sup>

We then created a formula that distinguished A- and B-list celebrity and noncelebrity CEOs. Specific cutoffs vary across studies as a function of each study's data distribution (Hubbard et al., 2018). We created an A-list celebrity CEO dummy variable that took a value of 1 (i.e., the CEO was an A-list celebrity) if (a) the company/CEO coverage in a given year, defined as the number of articles, and (b) the positive emotion words ratio for that year were more than one standard deviation above the mean coverage for all companies/CEOs that year.<sup>7</sup> The B-list celebrity CEO dummy variable was coded 1 if media coverage and positive tenor both had values between the mean and one standard deviation above the mean, and zero otherwise. This resulted in a preliminary sample comprising 539 A-list celebrity CEO transcripts, 1,034 B-list celebrity CEO transcripts, and 33,156 noncelebrity CEO transcripts involving 257 unique A-list celebrity, 541 unique B-list celebrity, and 7,897 unique noncelebrity CEOs. As this is an annual assessment, and our observations do not necessarily include consecutive quarters,<sup>8</sup> CEOs could be coded a celebrity in one observation but not in the preceding or following observation. However, this measure changes slowly, as for each quarterly observation the oldest quarter's coverage is dropped and the most recent quarter's coverage is added. Indeed, 77% of the celebrity CEOs in our sample are celebrities for every observation we have for them.<sup>9</sup>

*Sample construction.* A direct comparison of A- and B-list celebrity CEO-led firms and noncelebrity CEO-led firms reveals that the two are fundamentally different. Table 1 offers comparative tests using the raw data across several key characteristics. Celebrity CEOs tend to lead firms that are larger and better performing than noncelebrity CEO-led firms (all  $p < .001$ ). Moreover, the celebrity CEO-led firms tend to be traded on the NYSE, and they are a part of the S&P 500 index at roughly twice the incidence of noncelebrity CEO-led firms. The breakdown of the two classes of firms along their main industrial sectors also shows distinct patterns. In sum, as suspected, the direct comparison of celebrity CEO- and noncelebrity CEO-led firms points at a clear endogeneity problem that could muddle our empirical findings.

To address this concern, we started with the treatment sample of celebrity CEO-led firms and then screened noncelebrity CEO-led firms based on the following conditions: (a) size, measured as the firm's market capitalization, must be within 25% of the benchmark in either direction; (b) both firms must operate in the same industry<sup>10</sup>; (c) both observations must occur in the same quarter and year; and (d) both firms must belong to the same main

**Table 1**  
**Raw Sample Comparisons of Celebrity and Noncelebrity CEOs Before Matching**

Firm Characteristic	Noncelebrity CEO	All Celebrity CEOs	Test <sup>a</sup>	A-List Celebrity CEOs	Test <sup>a</sup>	B-List Celebrity CEOs	Test <sup>a</sup>
S&P 500	$M = 0.05$ $\sigma = 0.22$	0.11 0.32	116.49***	0.13 0.34	67.92***	0.10 0.31	58.90***
New York Stock Exchange	0.53 0.50	0.63 0.48	51.91***	0.60 0.49	10.65**	0.64 0.48	43.76***
Nasdaq	0.45 0.50	0.37 0.48	39.16***	0.39 0.49	8.02**	0.36 0.48	33.02***
Manufacturing	0.09 0.29	0.07 0.26	7.80**	0.09 0.29	0.05	0.06 0.24	13.16***
Business equipment	0.18 0.39	0.19 0.39	0.35	0.17 0.38	0.53	0.20 0.40	1.58
Health care	0.11 0.32	0.08 0.26	21.56***	0.07 0.25	10.33**	0.08 0.27	11.91***
Money	0.20 0.40	0.20 0.40	0.00	0.14 0.35	13.26***	0.24 0.43	6.78**
Other industries	0.41 0.49	0.46 0.50	17.05***	0.52 0.50	30.17***	0.42 0.49	1.43
Total assets <sup>b</sup>	8.39 21.40	14.40 28.27	8.36***	16.44 26.76	6.97***	13.33 28.98	7.98***
Market cap <sup>b</sup>	5.67 11.45	10.73 15.64	12.65***	15.28 19.30	11.51***	8.36 12.71	12.39***
Leverage	2.21 2.87	2.25 2.87	0.55	2.15 2.60	0.51	2.30 3.00	0.65
Return on assets	0.00 0.04	0.01 0.03	5.16***	0.01 0.03	9.36***	0.00 0.04	5.05***
Acquisition active	0.07 0.25	0.10 0.30	25.38***	0.11 0.31	16.02***	0.09 0.29	11.72***
Alliance active	0.04 0.19	0.06 0.25	25.01***	0.09 0.28	31.45***	0.05 0.22	5.00*

Note:  $N = 1,573$  for all celebrity CEOs (539 A-list and 1,034 B-list) and  $N = 33,156$  for noncelebrity CEOs. The unit of analysis is the earnings call.

<sup>a</sup>The tests are  $\chi^2$  tests for discrete variables and  $t$  tests for continuous variable (celebrity vs. noncelebrity CEOs).

<sup>b</sup>Expressed in billion dollars.

† $p < .10$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

equity index (either the S&P 500, the S&P 1500 or the Nasdaq 100) at the time of the observation.<sup>11</sup> Given that three of the four matching criteria are exact matches, our approach yields pairs comprised of the treatment firm (i.e., firms with celebrity CEOs) and a group of up to 10 control firms with noncelebrity CEOs but with identical characteristics with respect to time of observation, industry, and equity index affiliation, and with comparable market capitalizations. This enhances the likelihood that we are comparing firms whose primary difference is their CEOs' celebrity, greatly reducing the differences reported in Table 1.<sup>12</sup> Finally, we excluded all celebrity CEO-led firms where we could not find at least one match.

This matching process reduced our final sample to 1,244 celebrity CEO transcripts involving 522 unique celebrity CEOs (189 A-list celebrity CEOs and 400 transcripts, 423 unique B-list celebrity CEOs and 844 transcripts), and 2,699 unique noncelebrity CEOs involving 6,959 transcripts, for a total of 8,203 transcripts, which is our unit of analysis. This means that we were able to identify an average of 5.59 noncelebrity CEO-led firms for every celebrity CEO-led firm. We also assessed the demographic similarity of celebrity and noncelebrity CEOs. We gathered biographical and demographic data for a significant portion of the CEOs in our sample and compared celebrity and noncelebrity CEOs across these characteristics.<sup>13</sup> For example, there were no statistically significant differences with respect to age and tenure between the two groups (i.e., the average ages were 61.57 and 60.97 years, and the average

tenures were 6.55 and 6.00 years, for noncelebrity and celebrity CEOs, respectively). Similarly, there were no significant differences in gender, educational achievements, and nationality.<sup>14</sup>

Although all treatment and control groups contain distinct firms, the same firm could appear more than once across groups if a firm's CEO is a celebrity during some observations but not others. Any such shifts actually make our hypothesis tests more conservative, because if their language attributes remain constant when a CEO is no longer categorized as a celebrity, then it is more difficult to distinguish the effects of celebrity on our outcomes.

### *Dependent Variables*

We theorized about differences in linguistic patterns between celebrity and noncelebrity CEOs. We operationalized eight separate linguistic constructs that captured the language characteristics of the words spoken by CEOs, as defined by the specific dictionary used for that construct. We used multiple dictionaries, including Linguistic Inquiry and Word Count (LIWC) 2015 dictionaries (<http://liwc.wpengine.com/>), the dictionaries Loughran and McDonald (2014) created to analyze financial reports, and our own dictionaries that integrate previous findings related to celebrity CEOs. We broke down the eight linguistic constructs based on their theoretical properties as follows: positive/negative language (Loughran and McDonald), concrete/abstract language (LIWC), certain/uncertain language (Loughran and McDonald) and self-focused/other-focused language (our own). All these constructs were computed by summing the dictionary keywords spoken by the CEO during the call.

Following Pan et al. (2018), we obtained concrete language by combining verbs, numbers, and past-focused language, and abstract language by combining adjectives, nonspecific quantifiers, and future-focused language. Table 1 in the appendix provides some text examples for illustration purposes. We scaled the totals for each construct by the total number of words spoken by the CEO and multiplied by 1,000, because earnings calls vary in length.

To test our hypotheses about the relative use of certain types of language, following Pan et al. (2018), we calculated the difference between the values for each construct pair. Thus, we computed relative positivity as the difference between positive language and negative language, relative certainty as the difference between certain language and uncertain language, relative concrete language as the difference between the composite values for concrete language and abstract language, and relative self-regard as the difference between self-focused language and other-focused language. Pan et al. (2018) provide additional details on the validity of this approach. Unlike Pan et al., we did not normalize the individual constructs prior to combining them because they shared the same scaling. Further, normalizing them assumes each language category is equivalent, even though some language categories are used more frequently than others, and thus are more likely to be influential.

While some scholars have argued that difference scores are inappropriate (e.g., Edwards & Parry, 1993), others have noted that they are appropriate when used to calculate differences between distinct constructs (as opposed to changes in the same construct over time), the constructs are not highly correlated, and the difference is meaningful (Cao, Gedajlovic, & Zhang, 2009; Tisak & Smith, 1994). Each of the language pairs we use has weak negative correlations, and since our focus is on their relative effects, the difference between the frequency

with which each is used is meaningful. We also tested the separate effects of celebrity on each language category used in the difference scores in our robustness tests.

### *Control Variables*

We included several control variables to account for other potential factors that might influence the dependent variables. The first set of controls aims at determining whether the basic characteristics of earnings calls are associated with unique speech patterns by celebrity CEOs. Specifically, we included *transcript length* as the count of total words spoken by everyone during the call. We also counted the number of company executives (i.e., *number of execs*) and analysts (i.e., *number of analysts*) attending the call. More executives might imply differences in time sharing among the executives who discuss the company's financial performance and answer questions. The presence of more analysts can affect the quantity and quality of the questioning that will unfold during the earnings call.

At the CEO level, we introduced an indicator variable coded 1 for *female* CEOs and 0 for males. Prior research has shown that women use language differently than men (e.g., Burgoon, Dillard, & Doran, 1983; Huang et al., 2021; Joshi, Waksalak, Appel, & Huang, 2020), that female executives tend to speak less during earnings calls (Pesce, 2018), and that female CEOs are more likely to become celebrities (Lovelace et al., 2022).

We also included two firm-level performance measures: *earnings deviation*, which we calculated as the percentage difference between the actual and the mean estimated earnings of the firm in the focal quarter, and firm return on assets (*firm ROA*), which is the ratio of net income to total assets. Large departures from earnings estimates will inevitably affect the number and type of questions analysts ask and how the executives are likely to respond (Pan et al., 2018), as will extremely high or low accounting performance. Because CEOs also discuss significant strategic moves during these calls (Guo et al., 2017; Matsumoto et al., 2011), which could also affect the language attributes employed, we controlled for three strategy indicators. First, we controlled for *firm leverage*—computed as the debt-to-equity ratio—because significant increases or decreases in the firm's leverage can have significant performance consequences (Crossland, Zyung, Hiller, & Hambrick, 2014). We also considered mergers and acquisitions (M&A) and strategic alliance activity (both equity and nonequity), as these can have significant consequences for firms' future performance, and investors respond differently to these strategic actions (Graffin, Haleblan, & Kiley, 2016). We included *acquisition-active* and *alliance-active* indicators in the models, coded 1 if the firm entered an acquisition or alliance, respectively, during the quarter culminating in the call and 0 otherwise.

Finally, we included several firm-level controls. *S&P 500 firm* is an indicator variable coded 1 if the firm was in the S&P 500 index that year. S&P 500 firms are more likely to be included in investment funds and are more visible. As a result, firms in the S&P 500 index may be subject to greater scrutiny, which in turn may affect the way corporate communication unfolds in the earnings calls. We also included controls for firm size—measured as *firm market* capitalization in the most recent quarter—and industry and year fixed effects to account for variations driven by the industry context or the observation's time period.



*Model estimation.* We estimated the models predicting the language category difference scores using random-effects generalized least squares regressions.<sup>15</sup> In our post hoc analyses, we estimated the individual linguistic properties models using Tobit regressions, as the scaled dependent variables are bounded between 0 and 1,000 due to the scaling adjustments discussed earlier.

## Results

Table 2 presents the descriptive statistics and correlations for each variable. It is worth discussing a few highlights from the table: First, all celebrity CEOs comprise approximately 15% of the earnings calls (5% A-list). Moreover, only 5% of all CEOs are women, although this percentage is higher among B-list celebrity CEOs, where 8% are females. Females also comprise 5% of A-list celebrity CEOs.

Table 3 provides three examples of how we captured the linguistic constructs. The key words found in the text and belonging in each respective dictionary are underlined in the table. Table 3 also indicates the company name, its ticker, and the earnings call's quarter and year.

Table 4 presents the models testing our hypotheses. Because we have several dependent variables and one primary theoretical construct—measured using two variables—we do not include the control-only models when presenting the results, although we do include the change in chi-square between the control model and the model presented. Hypothesis 1a predicted that A-list and B-list celebrity CEOs will use more relative positivity (i.e., relatively more positive than negative language) compared with noncelebrity CEOs, and Hypothesis 1b predicted that A-list celebrities will use more relative positivity than B-list celebrity CEOs. The coefficient for the relationship between A-list celebrity CEO and relative positivity in Model 1 of Table 4 is positive and significant ( $\beta = 3.78, p = .001$ ), supporting Hypothesis 1a. However, while the coefficient for B-list celebrity CEO is positive, as predicted, it falls just short of reaching conventional statistical significance ( $\beta = 0.87, p = .102$ ), failing to support Hypothesis 1a. Hypothesis 1a is thus partially supported. We used Wald tests to assess our “b” hypotheses comparing the effects of A-list and B-list celebrity. The Wald test shows that the coefficient for A-list celebrity CEO is significantly larger than for B-list celebrity CEO (i.e.,  $\chi^2 = 10.73, p = .0011$ ), supporting Hypothesis 1b.

Hypothesis 2a predicted that A-list and B-list celebrity CEOs will use relatively more concrete language (i.e., use relatively more concrete than abstract language) than noncelebrity CEOs, and Hypothesis 2b predicted that A-list celebrity CEOs use more concrete language than B-list celebrity CEOs. The relationship between A-list CEO celebrity and relative concreteness in model 2 of Table 4 is positive and significant ( $\beta = 16.06, p < .0001$ ), but the coefficient for B-list celebrity CEO, while positive, is not significant ( $\beta = 1.17, p = .657$ ). Thus, Hypothesis 2a is only partially supported. The Wald test shows that the A-list celebrity coefficient is significantly larger than the B-list coefficient (i.e.,  $\chi^2 = 17.94, p = .0001$ ). Hypothesis 2b is therefore supported.

Hypothesis 3a predicted that A-list and B-list celebrity CEOs' language will have greater relative certainty (i.e., use relatively more certain than uncertain language), compared with noncelebrity CEOs, and Hypothesis 3b predicted A-list celebrity CEOs use more certain language than B-list celebrity CEOs. The relationship between A-list celebrity CEO and relative certainty is positive and significant ( $\beta = 3.11, p < .0001$ ), supporting



**Table 2**  
**Descriptives and Correlations**

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1. A-list celebrity CEO	0.05	0.22																	
2. B-list celebrity CEO	0.10	0.30	-.08																
3. Transcript length	19,962	9,145	.05	.04															
4. Number of excess	3.49	1.16	.05	.02	.17														
5. Number of analysts	6.47	3.54	.06	.04	.75	.17													
6. Female CEO	0.05	0.22	.04	-.01	-.06	.04	-.03												
7. Earnings deviation	0.03	0.68	.01	-.01	.01	.01	.02	-.01											
8. S&P 500 firm	0.03	0.16	.11	.06	.11	.07	.11	.05	.02										
9. Firm market cap <sup>a</sup>	4.70	8.07	.14	.06	.30	.21	.38	-.02	.02	.21									
10. Firm leverage	2.36	3.00	.01	.00	-.04	.09	-.03	-.02	-.00	.01	.03								
11. Firm return on assets	0.00	0.03	.09	.01	.13	-.01	.14	.01	.03	.09	.17	-.00							
12. Acquisition active	0.08	0.27	.04	.02	.04	.03	.06	-.01	-.00	.02	.10	.01	.01						
13. Alliance active	0.04	0.19	.03	.01	.06	.02	.08	-.01	.01	.02	.09	-.04	.00	.05					
14. Relative positivity	12.46	15.84	.07	.03	.32	-.09	.24	.01	.01	.04	.08	-.08	.09	.04	.03				
15. Relative concreteness	126.60	91.36	.05	.03	.58	-.07	.36	-.03	-.00	.02	.14	-.05	.06	.03	.03	.35			
16. Relative certainty	8.45	12.30	.08	.03	.27	-.06	.22	.00	-.01	-.00	.13	-.09	.02	.02	.04	.32	.34		
17. Relative self-regard	87.33	57.58	.08	.04	.57	-.11	.37	-.03	-.01	.02	.13	-.07	.09	.03	.02	.47	.83	.38	

*Note:*  $N = 8,203$  for all measures but relative concreteness ( $N = 8,108$ ). Coefficients involving at least one dichotomous variable are Spearman correlations; all others are Pearson correlations. All coefficients greater than  $|0.05|$  are  $p < .001$ .  
<sup>a</sup>Expressed in billion dollars.

**Table 3**  
**Linguistic Construct Examples**

Construct	Count	Company	Ticker	Period	Message
Positive	13	Flagstar Bancorp, Inc.	FBC	Quarter 2 2016	Well, let me start, Paul, and then I'll let the other guys here pipe in if they like to. It's really taken <i>advantage</i> of market <i>opportunities</i> . So, if there's an <i>opportunity</i> to sell an asset at a <i>gain</i> and replace it with an asset that has a <i>better</i> spread and not significantly <i>greater</i> risk profile, we're going to do that. So if it fits from a duration point of view, then we're going to take <i>advantage</i> of that <i>opportunity</i> . And this is one of the <i>great advantages</i> that we have. We can generate assets without a <i>tremendous</i> amount of difficulty. And so we're not afraid to sell assets, take a <i>gain</i> , and then replace them when that <i>opportunity</i> presents itself.
Past focus	4	Delek US Holdings, Inc.	DK	Quarter 1 2017	Obviously, we <i>lost</i> our binoculars if you will. And that's potentially for me to wish again MAPCO all the best. I do obviously see, we do some—see wholesale and some sales. I do believe that demand, as I <i>said</i> in the <i>past</i> is it down 3%, probably not. Is it down 1%, I believe so. I'm surprised with that. But looks like demand is little softer. I must say that in our refineries, the four refineries that we, because we see there are a lot of refineries as well, demand <i>was</i> pretty strong. But overall, I think the—along the colonial [ph] demand is softer.
Certain	3	Liberty Tax Inc.	TAX	Quarter 1 2017	Thank you. <i>Sure</i> , I do. And as <i>always</i> , I wanted to thank our employees and our franchisees and our area developers because we're only going to be successful if we have happy and successful franchisees and employees. Thank you <i>everyone</i> and have a great day.

*Note:* Words in italics reflect the particular construct. The symbol [ph] notes words that were difficult to hear.

Hypothesis 3a. However, the B-list celebrity CEO coefficient, while positive, is not statistically significant ( $\beta = 0.42$ ,  $p = .320$ ), failing to support Hypothesis 3a. Thus, Hypothesis 3a is partially supported. The Wald test shows that the coefficient for A-list celebrity CEO is significantly larger than for B-list celebrity CEO ( $\chi^2 = 14.26$ ,  $p = .0002$ ); thus, Hypothesis 3b is supported.

Finally, Hypothesis 4a predicted that A-list and B-list celebrity CEOs will use relatively more self-regarding language (i.e., use relatively more self-focused than other-focused language) than noncelebrity CEOs, and Hypothesis 4b predicted A-list celebrity CEOs would use more self-regarding language than B-list celebrity CEOs. Model 4 in Table 4 tests these hypotheses. Both A-list ( $\beta = 13.28$ ,  $p < .0001$ ) and B-list ( $\beta = 3.09$ ,  $p = .056$ ) celebrity have positive and significant relationships with relative self-regard. Hypothesis 4a is therefore supported. Further, the coefficient for A-list celebrity is significantly larger than the B-list celebrity coefficient ( $\chi^2 = 13.61$ ,  $p = .0002$ ); thus, Hypothesis 4b is also supported.

**Table 4**  
**Combined Linguistic Characteristics and CEO Celebrity**

Dependent Variable	Relative Positivity	Relative Concreteness	Relative Certainty	Relative Self-Regard
Intercept	5.42** (1.66)	50.17*** (7.99)	-0.00 (1.25)	44.20*** (5.25)
A-list celebrity CEO	3.78*** (0.76)	16.06*** (3.79)	3.11*** (0.61)	13.28*** (2.37)
B-list celebrity CEO	0.87 (0.53)	1.17 (2.63)	0.42 (0.43)	3.09† (1.64)
Transcript length <sup>a</sup>	0.60*** (0.03)	7.38*** (0.13)	0.36*** (0.02)	4.44*** (0.08)
Number of execs	-1.60*** (0.15)	-14.75*** (0.74)	-1.09*** (0.12)	-10.19*** (0.46)
Number of analysts	-0.18* (0.07)	-4.40*** (0.37)	-0.09 (0.06)	-2.21*** (0.23)
Female CEO	2.20** (0.75)	6.87† (3.72)	0.82 (0.60)	3.10 (2.32)
Earnings deviation	0.01 (0.24)	-0.98 (1.17)	-0.34† (0.19)	-1.39† (0.73)
S&P 500 firm	0.87 (1.08)	-2.86 (5.25)	1.09 (0.84)	0.92 (3.37)
Firm market cap <sup>b</sup>	0.33† (0.18)	2.34** (0.86)	0.91*** (0.14)	0.59 (0.56)
Firm leverage	-0.10† (0.06)	-0.96** (0.29)	-0.05 (0.05)	-0.42* (0.18)
Firm return on assets	9.77† (5.46)	-55.09* (26.98)	-16.76*** (4.35)	22.58 (16.96)
Acquisition active	1.63** (0.61)	4.06 (3.01)	0.09 (0.49)	2.52 (1.88)
Alliance active	-0.29 (0.83)	-2.88 (4.15)	0.36 (0.67)	-3.82 (2.58)
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Model $\chi^2$	1579.01***	5175.25***	1126.88***	5070.90***
$\Delta\chi^2$	25.93***	17.94*	26.07***	33.34***

Note:  $N = 8,203$  for all models but Relative Concreteness ( $N = 8,108$ ). All models are random-effect generalized least squares regression estimations. Standard errors in parentheses.

<sup>a</sup>This variable is multiplied by 1,000.

<sup>b</sup>This variable is logged to remedy skewness.

† $p < .10$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Overall, the results support our general contention that celebrity CEOs use language differently than noncelebrities. A-list celebrity CEOs are likely to be relatively more positive, which reinforces audiences' positive predispositions toward celebrities. Further, they use relatively more concrete and certain language, suggesting they are more likely to make specific statements and claims without qualifiers, enhancing perceptions they are in control. Both A- and B-list celebrity CEOs also use relatively more self-regarding language, which is consistent with expectations that celebrities will focus more on their own actions. However, it is A-list

celebrities who most clearly differ from noncelebrity CEOs across all language attributes. Thus, our findings appear sensitive to the degree of celebrity achieved. We delve deeper into this topic and other potential issues in our robustness checks and post hoc analyses.

### *Robustness Checks, Post Hoc Analyses, and Empirical Limitations*

We conducted several sets of analyses to test the sensitivity of our results and gain additional insights into our data. The first considers alternative specifications of our CEO celebrity measure, the second decomposes the difference-score dependent variables and looks at each component separately and also considers some additional language attributes, the third explores whether the effects of celebrity on language use endure, and the fourth addresses potential endogeneity issues in the relationship between celebrity and language usage.

*Establishing CEO celebrity.* One challenge facing any study on celebrity is establishing who is a celebrity and who is not (Hubbard et al., 2018; Lovelace et al., 2022; Pfarrer et al., 2010). While our approach is consistent with prior studies using media-based measures, we nonetheless had to make in-or-out decisions in defining our algorithm. For example, to make our data collection tractable, we limited the media outlets used to determine both the amount and the quality of coverage received by CEOs to newspapers with the largest national coverage available through Lexis-Nexis. However, doing so may have resulted in unequal coverage of all CEOs in all industries and geographic locations. Prior research has shown that certain industries attract more interest from the media than others and that no matter how far-reaching, media outlets tend to prefer local to distant topics (Epstein, 1973; McManus, 1994).

While this is clearly a limitation of our study, we took multiple steps to test the robustness of our findings against alternate approaches. First, although we could not expand the number of newspapers we used as sources for CEO coverage, we could narrow that number to include fewer than the original 14 newspapers. In principle, identifying celebrities should be unaffected by the exclusion (or inclusion) of one or a few specific sources, so long as the remaining sources reflect the general coverage of CEOs and their companies.

We tested this idea by excluding the sources with the highest circulations from the count one at a time.<sup>16</sup> Overall, our results remained consistent and sometimes even improved for B-list celebrity. For example, when we dropped *The New York Times*, the results for the A-list celebrity CEOs were the same and improved for B-list celebrity CEOs, with B-list celebrity now having a positive and significant relationship with relative positivity and relative certainty in addition to relative self-regard (i.e., relative positivity,  $\beta = 2.65$ ,  $p = .0014$ , and  $\beta = 1.20$ ,  $p = .0289$ ; relative concreteness,  $\beta = 13.66$ ,  $p = .0009$ , and  $\beta = 3.10$ ,  $p = .2553$ ; relative certainty,  $\beta = 2.38$ ,  $p = .0004$ , and  $\beta = 0.75$ ,  $p = .0923$ ; relative self-regard,  $\beta = 12.62$ ,  $p < .0001$ , and  $\beta = 3.94$ ,  $p = .0213$ ). When we excluded the *Wall Street Journal* and *USA Today*, respectively, B-list celebrity CEO again had significant relationships with relative positivity in addition to relative self-regard, and when we excluded the *Washington Post*, B-list celebrity CEO had a significant relationship with relative certainty in addition to self-regard. Thus, our findings with respect to A-list celebrity CEOs were robust across all the analyses, and our findings with respect to B-list celebrity CEOs were the same or improved, depending on the newspaper excluded and therefore who was coded a B-list celebrity and the

matching noncelebrity firms that we included in the analysis. We consider the implications of B-list celebrity CEOs' sensitivity to media sources in our Discussion.

As an additional robustness check, we changed the formula by which we defined celebrity CEOs. First, consistent with prior research that employed binary celebrity measures (i.e., Hubbard et al., 2018; Pfarrer et al., 2010), we aggregated A- and B-list celebrity CEOs into a single category to determine whether this larger group of celebrity CEOs would collectively exhibit distinct speech patterns. This measure was positive and significant in all our models.

Further, prior studies have used slightly different approaches than we employed here to operationalize celebrity's dimensions. Most notably, Hubbard et al. (2018) included a third language parameter—nonconforming language (which they noted did not materially change who was defined as a celebrity or their results)—that we omitted. In additional analyses, we included nonconforming language as a third parameter. Doing so resulted in fewer celebrity CEOs (of either tier) and overall observations (i.e., 698 celebrities and 2,438 observations) but still yielded comparable results for the binary measure they employed: relative positivity,  $\beta = 3.49$ ,  $p = .0111$ , and  $\beta = 1.17$ ,  $p = .2117$ , for A- and B-list celebrity CEOs; relative concreteness,  $\beta = 25.50$ ,  $p = .0002$ , and  $\beta = 0.08$ ,  $p = .9867$ ; relative certainty,  $\beta = 2.42$ ,  $p = .0242$ , and  $\beta = 0.04$ ,  $p = .9590$ ; relative self-regard,  $\beta = 16.41$ ,  $p = .0001$ , and  $\beta = 0.79$ ,  $p = .7882$ .

Finally, we considered whether using a data source other than media coverage to identify celebrity CEOs might affect our outcomes. We considered social media sources (i.e., LinkedIn, Twitter, and Wikipedia searches) but were unable to use them due to data availability limitations (either they did not cover our whole study period, CEOs did not use them, or we could not access the data). As an alternative, we identified three different "famous CEOs" lists. Although there is clearly a difference between being famous (however defined) and being a celebrity (Pollock et al., 2019; Rindova et al., 2006), and these sorts of rankings are better indicators of status than of celebrity (Pollock et al., 2019), they can nonetheless help assess the robustness of our findings to other measures. All these analyses use binary measures of CEO celebrity since we cannot create A- and B-lists as easily as we did with our media measure. We coded being on the list as being a celebrity CEO.

First, we used the 2018 update of the list created by Hansen et al. (Hansen, Ibarra, Peyer, Von Bernuth & Escallon, 2010) published in *Harvard Business Review* (for details on the methodology, please see <https://hbr.org/2019/11/the-best-performing-ceos-in-the-world-2019>). Although other years were available, the authors changed their methodology over time, making a longitudinal analysis inappropriate. This list also includes CEOs of firms in the S&P Global 1200. Matching our U.S.-based CEOs, we identified 408 best-CEO quarters (as opposed to our original nearly 1,600 celebrity-CEO quarters) and created a matched sample of noncelebrity CEOs using our methodology. We found evidence that celebrity CEOs used more relative concrete language ( $\beta = 15.61$ ,  $p = .0137$ ), while the other speech constructs showed the correct sign but fell short of reaching statistical significance (relative positivity,  $\beta = 1.97$ ,  $p = .1047$ ; relative certainty,  $\beta = 1.25$ ,  $p = .1920$ ; relative self-regard,  $\beta = 6.13$ ,  $p = .1074$ ).

We repeated this analysis using two additional lists: CEOs listed on the Famous People website (<https://www.thefamouspeople.com/ceos.php>), which yielded 210 famous-CEO quarters, and a list published by *CEOWorld Magazine* (<https://ceoworld.biz/2022/01/25/the-worlds-most-influential-ceos-and-business-executives-of-2022/>), which yielded 434 influential-

CEO quarters. Using the Famous People list, we found a positive association between famous CEOs and the use of certain language ( $\beta = 4.56, p = .0005$ ); the *CEOWorld Magazine* list identified positive relationships between influential CEOs and more positive, certain, and self-regarding language ( $\beta = 7.42, p < .0001$ ;  $\beta = 4.14, p < .0001$ ; and  $\beta = 7.14, p = .0676$ , respectively). In sum, the robustness tests indicate that although differences inevitably emerge when changing how celebrity CEOs (and thus our sample) is identified, and when using smaller samples, there is strong and unambiguous evidence that celebrity CEOs use language in fundamentally different ways, regardless of the empirical approach we adopted.

*Individual language categories.* We also wanted to assess whether it was the difference in the two measures used to create each language attribute measure that CEO celebrity affected or whether CEO celebrity was primarily affecting one of the two constructs and driving our findings. Thus, we decomposed the difference scores and predicted each component separately. We present the results of this analysis in Table 5. A-list and B-list celebrity CEOs used significantly more positive language ( $\beta = 0.90, p = .0097$ , and  $\beta = 0.93, p = .0001$ , respectively) than noncelebrity CEOs, but there was no difference in their use of negative language ( $\beta = -0.11, p = .6874$ , and  $\beta = 0.12, p = .4950$ ). Given that CEOs overall use 70% more positive than negative language, on average, it may be that all CEOs strive to use as little negative language as possible, although celebrity CEOs tend to be even more positive.

Neither A-list nor B-list CEO celebrity was significant in predicting concrete or abstract language use ( $\beta = -0.94, ns$ ;  $\beta = -0.76, ns$ ; and  $\beta = 0.77, ns$ ;  $\beta = 0.35, ns$ , respectively), nor were they significant in predicting the use of certain or uncertain language ( $\beta = 0.26, ns$ ;  $\beta = 0.21, ns$ ; and  $\beta = -0.32, ns$ ;  $\beta = -0.13, ns$ , respectively) or first- ( $\beta = 0.13, ns$ ;  $\beta = 0.71, ns$ ) and second-person ( $\beta = -0.60, ns$ ;  $\beta = -0.50, ns$ ) pronouns. Given the results using difference scores are significant, this suggests that CEO celebrity does not drive the use of one construct more than the other, but it is the relative balance in usage between the two where celebrity CEOs differ. These findings have some interesting theoretical implications, which we will discuss.

*Related language categories.* Although we focused primarily on the relative use of different types of linguistic pairs, there are other, related language attributes celebrity CEOs might use more frequently. For example, because they are more likely to see themselves as responsible for their firms' outcomes (Adler & Adler, 1989; Hayward et al., 2004), and to take responsibility for their firms' successes and emphasize them in their public communications (Meindl et al., 1985; Salancik & Meindl, 1984), we also expect celebrity CEOs will focus more on their achievements or accomplishments, and thus use more "achievement" words (e.g., "accomplish," "beat," "best," "compete," "defeat," "excel," "recover," "succeed") in their public communications. The positive and significant relationship between A-list and B-list CEO celebrity and the use of achievement words in Model 9 of Table 5 ( $\beta = 0.74, p = .0834$ , and  $\beta = 0.98, p = .0010$ , respectively) supports this argument.

Another linguistic category we explored in our post hoc analyses is tentativeness. Tentativeness suggests a lack of confidence, or hesitation to commit or take action that is inconsistent with the bold actions associated with gaining and maintaining celebrity (Lovelace et al., 2018; Rindova et al., 2006). Consistent with these expectations and our findings regarding relative certainty, Model 10 of Table 5 shows that both A-list and B-list CEO celebrity had

**Table 5**  
**CEO Linguistic Characteristics and CEO Celebrity**

Dependent Variable	Positive	Negative	Concrete	Abstract	I/Wc	You	Certain	Uncertain	Achieve	Tentative
Intercept	16.15*** (0.65)	8.56*** (0.50)	155.32*** (2.02)	87.79*** (1.62)	62.33*** (1.33)	8.95*** (0.83)	12.80*** (0.58)	9.39*** (0.43)	23.60*** (0.81)	32.54*** (0.98)
A-list celebrity CEO	0.90** (0.35)	-0.11 (0.27)	-0.94 (1.08)	0.77 (0.86)	0.13 (0.71)	-0.60 (0.44)	0.26 (0.31)	-0.32 (0.23)	0.74† (0.43)	-1.52** (0.52)
B-list celebrity CEO	0.93*** (0.24)	0.13 (0.19)	-0.76 (0.75)	0.35 (0.60)	0.71 (0.50)	-0.50 (0.31)	0.21 (0.22)	-0.13 (0.16)	0.98** (0.30)	-0.99** (0.37)
Transcript length <sup>a</sup>	-0.04** (0.01)	-0.04*** (0.01)	0.38*** (0.04)	0.05 (0.03)	-0.08** (0.03)	-0.09*** (0.02)	-0.04*** (0.01)	0.03*** (0.01)	-0.04*** (0.02)	0.09*** (0.02)
Number of exes	-0.05 (0.07)	0.10† (0.05)	-0.41† (0.21)	-0.80*** (0.17)	0.07 (0.14)	0.50*** (0.09)	-0.20** (0.06)	-0.20*** (0.04)	-0.11 (0.07)	-0.32** (0.10)
Number of analysts	0.06† (0.03)	0.03 (0.03)	-0.42*** (0.10)	0.03 (0.08)	0.01 (0.07)	-0.01 (0.04)	0.06** (0.03)	-0.03 (0.02)	0.00 (0.04)	-0.04 (0.05)
Female CEO	1.03** (0.34)	-0.51* (0.26)	-0.06 (1.05)	-2.43** (0.84)	1.58* (0.69)	0.72† (0.43)	0.18 (0.30)	-0.25 (0.22)	0.94* (0.42)	-3.06*** (0.51)
Earnings deviation	0.17 (0.11)	-0.01 (0.08)	-0.17 (0.33)	0.20 (0.27)	-0.19 (0.22)	0.07 (0.14)	0.04 (0.10)	0.01 (0.07)	-0.01 (0.13)	-0.16 (0.16)
S&P 500 firm	0.24 (0.46)	-0.11 (0.35)	-0.53 (1.42)	-2.60* (1.14)	0.83 (0.94)	-0.33 (0.58)	-0.24 (0.41)	-0.13 (0.30)	0.20 (0.56)	-2.29** (0.69)
Firm market cap <sup>b</sup>	0.09 (0.07)	0.16** (0.06)	-0.01 (0.23)	0.33† (0.18)	-0.78*** (0.15)	0.06 (0.09)	0.27*** (0.07)	-0.07 (0.05)	0.19* (0.09)	-0.06 (0.11)
Firm leverage	0.04 (0.03)	0.01 (0.02)	0.22** (0.08)	0.08 (0.07)	0.20*** (0.05)	0.04 (0.03)	-0.01 (0.03)	0.01 (0.02)	0.06† (0.04)	0.00 (0.04)
Firm return on assets	4.86* (2.45)	-7.39*** (1.87)	28.52*** (7.56)	12.04* (6.05)	35.62*** (4.99)	-1.95 (3.10)	-7.65*** (2.18)	2.90† (1.62)	5.28† (3.00)	2.52 (3.69)
Acquisition active	0.29 (0.28)	-0.09 (0.21)	0.96 (0.85)	-0.16 (0.68)	0.76 (0.56)	-0.81* (0.35)	-0.18 (0.25)	0.10 (0.18)	0.90** (0.34)	-0.29 (0.42)
Alliance active	0.31 (0.38)	0.12 (0.29)	-1.71 (1.17)	-2.05* (0.94)	0.23 (0.77)	1.27** (0.48)	0.87* (0.33)	-0.38 (0.25)	-0.66 (0.46)	0.40 (0.57)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Model $\chi^2/df$	440.97***	250.28***	440.20***	244.71***	299.09***	216.67***	132.62***	397.51***	327.83***	318.96***
$\Delta\chi^2$	19.53***	0.69	1.61	1.03	2.03	4.12	1.52	2.34	12.83**	14.19***

Note: N = 8,203 (concrete and abstract, N = 8,108).

\*Multiplied by 1,000.

†Logged to remedy.

‡ $p < .10$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .



negative and significant relationships ( $\beta = -1.52, p = .0038$ , and  $\beta = -0.99, p = .0070$ ) with the use of tentative language.

*Once a celebrity, always a celebrity?* As we previously noted, our primary analysis tracks CEOs' celebrity over the prior four quarters. As such, CEOs may be celebrities in one observation but not another, although, as noted earlier, over three quarters of our celebrity CEOs are identified as celebrities in all the observations we have for them. Since it is possible that CEOs may shift in and out of celebrity over time (Pfarrer et al., 2010), it also raises concerns about the permanency of celebrity and its overall significance. To explore this, we expanded the celebrity CEO sample by allowing CEOs coded as a celebrity in one observation to remain celebrities throughout the remaining observations and reran our analyses. Predictably, this increased the number of celebrity CEOs (to 645 from the original total of 610 unique CEOs). For parsimony, we do not report all the results here (they are available from the authors on request) and instead focus just on the main findings from Table 4. We found the results were nearly identical to the original results: relative positivity ( $\beta = 3.28, p < .0001$ , and  $\beta = 1.09, p = .0312$ ), relative concreteness ( $\beta = 18.36, p < .0001$ , and  $\beta = 3.28, p = .1861$ ), relative certainty, ( $\beta = 2.89, p < .0001$ , and  $\beta = 0.45, p = .2741$ ), and relative self-regard ( $\beta = 14.56, p < .0001$ , and  $\beta = 4.44, p = .0050$ )—with B-list celebrity CEO now positively and significantly related to relative positivity. Given how many of our celebrity CEOs were celebrities in all their observations, we need to interpret this result with some caution, but it suggests that once a CEO becomes a celebrity, their language usage remains consistent with being a celebrity CEO.

*Potential endogeneity of CEO celebrity.* Our research design and controls effectively deal with most sources of endogeneity. Further, as we noted earlier, personality traits such as narcissism and high CSE are unlikely to differ among celebrity and noncelebrity CEOs. However, there could still be omitted factors that influence both achieving celebrity and language use. We conducted two analyses to address this issue. First, because we have the same CEOs conducting earnings calls before and after they have achieved celebrity, we conducted *t* tests comparing celebrity CEOs' language in earnings calls before they became celebrities with their language use after they achieved celebrity. Our results showed a marked difference in the speech patterns of CEOs after they become celebrities. Specifically, all four of our language measures are greater: relative positivity,  $t = 7.37, p < .0001$ ; relative concreteness,  $t = 3.41, p = .0007$ ; relative certainty,  $t = 6.91, p < .0001$ ; and relative self-regard,  $t = 8.98, p < .0001$ .

We also conducted a robustness of inference to replacement (RIR) analysis, which scholars have begun using to assess the susceptibility of different relationships to endogeneity (e.g., Busenbark, Yoon, Gamache, & Withers, 2022; Frank, 2000). Because including two CEO celebrity measures can create statistical issues, we conducted this test using the binary celebrity CEO measure. We employed the *konfound* command in Stata with the nonlinear option, which uses the average partial effects for computation. To invalidate our findings, an omitted variable would have to affect the following percentages of celebrity CEO observations for each dependent variable: relative positivity, 49.69% (4,076 cases); relative concreteness, 23.17% (1,879 cases); relative certainty, 42.90% (3,519 cases); and relative self-regard, 55.83% (4,580 cases). While there are no hard threshold percentages we are aware of, the large proportion of cases required to invalidate our findings suggest omitted variables are unlikely to be a problem in our analyses (Busenbark et al., 2022).

## Discussion

In this study, we sought to understand how CEO celebrity affected the language used in earnings calls. We argued that celebrity would affect the celebrity CEOs' confidence and senses of authority and responsibility, which would influence their language attributes. Our findings support our arguments. A-list celebrity CEOs exhibited relatively more positivity, concreteness, certainty, and self-regard; used more achievement and less tentative language than noncelebrity CEOs; and used these language attributes more once they became celebrities. Being a B-list celebrity clearly enhanced their use of relative self-regarding language, and they also used more achievement and less tentative language than noncelebrities. They also appear to employ more relative positivity and certainty language than noncelebrities. Our findings have theoretical implications for research on CEO celebrity and corporate communications and several practical implications.

### *Theoretical Implications*

Our study contributes to the slim but growing body of empirical research on CEO celebrity (Pollock et al., 2019). First, it corroborates theoretical arguments that scholars have made about how celebrity affects both the celebrity CEO and their audiences (e.g., Lovelace et al., 2018). We provide evidence supporting the arguments that celebrity enhances socio-cognitive outcomes related to confidence and authority, showing that celebrity CEOs employ language consistent with these outcomes at systematically higher levels than noncelebrity CEOs.

We also show that there are differences associated with achieving different degrees of celebrity. CEOs achieving the greatest celebrity employed the highest levels of each language attribute, suggesting they experienced greater confidence, senses of authority, responsibility, and the desire to project a positive image than B-list and noncelebrity CEOs, and that celebrity's sociocognitive effects can continue to change, even once celebrity is achieved. Our results were more mixed for the difference between B-list celebrity CEOs and noncelebrity CEOs. We found the most consistent differences with respect to self-regard, achievement, and a lack of tentativeness, but our post hoc analyses also revealed significant differences with respect to relative positivity and certainty. The one language attribute where we saw no difference was relative concreteness. This may be because there can be benefits to using abstract language (Guo et al., 2017; Maass et al., 1989), and B-list celebrity and noncelebrity CEOs are more likely to avail themselves of its benefits, or are not secure enough (in their own minds, if not in their positions) to take the risks associated with using more concrete language. Future research should continue to explore the distinctions between different degrees of celebrity.

Our study further contributes to celebrity research by developing theory to explain how CEO celebrity can create value for firms. Prior research has suggested that CEO celebrity tends to yield greater benefits for the CEO than for the firm (Malmendier & Tate, 2009; Wade et al., 2006); our findings suggest that CEO celebrity may also create value for firms, but its effect is more indirect and subtle, as it leads to different language use, which then influences public information disclosure and stakeholders' perceptions and reactions. Future research should continue to explore these complex dynamics.

Our study also contributes to corporate communications research. Prior research on corporate communications, particularly in financial settings (Gao et al., 2016), has explored how investors and analysts react to different kinds of public language, with language attributes only recently receiving consideration (e.g., Guo et al., 2017, 2020, 2021; König et al., 2018; Pan et al., 2018). Further, the factors that influence information asymmetries, and the conflicts that arise between executives' and investors' interests in reducing these asymmetries, have dominated research in this area. Our study provides valuable theoretical insights with respect to both issues.

Prior research has shown that positivity, concreteness, and certainty can all affect analysts' and investors' perceptions by reducing their perceived uncertainty about who's in control, the firm's actions, and the extent of potential information asymmetries (Allee & Deangelis, 2015; Pan et al., 2018). Our study illustrates how CEO celebrity affects the use of language that influences these perceptions. Celebrity CEOs' use of greater self-regarding and achievement language can enhance perceptions that they are capable and in control. Their greater positivity, concreteness, and certainty further reflect celebrity CEOs' confidence and sense of authority (Lovelace et al., 2018). These presentations in turn can affect analysts' perceptions of and confidence in the CEO.

Further, most research on corporate communications assumes rational information processing is employed by analysts and others in making their assessments (Bushee et al., 2018; König et al., 2018; Lee, 2016; Matsumoto et al., 2011; Pan et al., 2018). Our study shows that celebrity CEOs may also stimulate more heuristic, emotion-driven information processing (Slovic et al., 2007). Our findings suggest that the language attributes we studied are not necessarily employed strategically, since we observe the effect systemically for celebrity CEOs—and it is unlikely they will all consciously and strategically employ the same language attributes, nor do they provide information that actually reduces information asymmetries. Rather, they increase confidence in and positive reactions to firms led by celebrity CEOs, even though by their nature, celebrity CEOs are more likely to experience wider variations in their performance as they engage in more nonconforming actions (Pfarrer et al., 2010; Rindova et al., 2006). Future research should continue to explore these dynamics and explore how analysts react when celebrity CEOs subsequently fail to meet their expectations.

### *Practical Implications*

Our article also has important practical implications. Increasingly, research analysts' recommendations and actions demonstrate that these financial stakeholders can shape firm outcomes and affect strategic decisions. However, our findings indicate that CEOs are more likely to control their story lines and shape the narratives they want for themselves and their organizations. Thus, having a celebrity CEO may give firms more control over what information is made public and how it is done. Although the effects of celebrity on language use may be largely unconscious, celebrity CEOs who are aware of these dynamics can be more intentional in using their celebrity, and the language attributes they employ, to shape analysts' perceptions.

### *Limitations and Future Research*

Every study has limitations that suggest directions for future research. For instance, our choice of media outlets was dictated by their overall U.S. circulation and availability in

Lexis-Nexis. However, our robustness tests showed that whereas capturing A-list celebrity appears robust to different media sources, identifying B-list celebrity CEOs is more sensitive. Scholars (Hubbard et al., 2018; Petkova, Rindova & Gupta, 2013) have noted that specialized media sources can sometimes lead to identifying more, and more relevant, celebrities than general sources. However, unlike Hubbard et al.'s (2018) study of internet-IPO firms, our sample covered a wide variety of industries, so more general media sources were theoretically appropriate. Nonetheless, when distinguishing multiple levels of celebrity, we also found that at the lower margin, including or excluding different media sources affected who was defined as a B-list celebrity and whether B-list celebrity influenced different language attributes. Future research should continue to consider these distinctions and theoretically justify their media choices.

We also focused on the relative direct effects of celebrity while controlling for a variety of firm-level characteristics that could affect the language attributes used. We did not theorize about how celebrity might be affected by these contextual factors. However, in analyses not reported here, we tested 40 interactions between A-list and B-list CEO celebrity and two performance (ROA and earnings deviation) and three strategic (leverage, acquisition activity, and alliance activity) measures across all four language attributes and found significant interaction effects for only three interactions, which margins analyses showed did not change our substantive interpretations. Given that our sample size provides the power necessary to detect even small effect sizes, these findings provide solid evidence that contextual factors are not driving celebrity CEOs' language use. Nonetheless, future research should continue exploring whether contextual factors affect celebrity's influence on different outcomes.

Another limitation is that we do not have data on every CEO for every quarter; thus, we cannot assess the temporality of CEO celebrity and how it might relate to changes in language use, although our post hoc analyses suggest that achieving celebrity leads to changes in language use that are enduring. Future research should continue to explore these temporal issues. In addition, even considering our short observation period, a great deal has changed with respect to news dissemination in the United States. For example, a recent report indicated that over the past 15 years, daily and weekly newspaper circulations have declined by as much as 40%, with 20% of this loss occurring between 2015 and 2018.<sup>17</sup> Further, more and more adults receive their news from social media instead of traditional news sources, (Martin, 2018). To the extent that certain CEOs are defined as celebrities because they are perceived as such by the general public, it is important to ensure that the appropriate news sources (i.e., ones that actually reach the general public) are used when defining celebrity CEOs. While we do not believe this is problematic during our study period, it may become more relevant in the future. In sum, the shifting nature of celebrity makes research into this topic challenging, and findings need to be validated and retested in our ever-changing media environment.

Another potential limitation is that we cannot control for other CEO-specific factors (e.g., personality traits, private actions) that could affect their language use and their ability to gain celebrity. However, as we noted earlier, personality traits are likely to be equally prevalent among celebrity and noncelebrity CEOs, we control for other CEO demographic and firm-level factors that could affect both celebrity (Lovelace et al., 2022) and language attributes, and our post hoc analyses suggest celebrity has an enduring within-CEO influence and that endogeneity is unlikely to be an issue in our study. A related limitation is that we focused on language attributes rather than content, and some content might engender impression

management tactics that influence the language attributes employed. However, we include an array of performance and strategic action measures that control for many potential content issues. Future research can continue to explore and parse these relationships. A final limitation is that we employed archival research methods, which limits our ability to directly test some of the causal mechanisms we argue are at work. Future research using other methods, such as experiments, policy capturing, or qualitative techniques, could explore these mechanisms more directly.

We think our study also suggests additional future research opportunities. First, we believe that our findings pave the way for future research on the broader effects CEOs' and organizational leaders' language has outside the earnings call context (Guo et al., 2016). For example, social media (Pollock et al., 2019) affords CEOs opportunities to directly communicate with broader audiences beyond financial stakeholders (e.g., Elon Musk has over 120 million Twitter followers). In addition, the emotional language and information processing central to creating celebrity are more prevalent on social media (Etter, Ravasi, & Colleoni, 2019; Pollock et al., 2019). Thus, how CEOs communicate with stakeholders on social media platforms could provide insight into how CEOs attain, maintain, and potentially grow their celebrity and how their language use shapes firm outcomes. Indeed, such contexts also offer fertile ground for future research aiming to understand the influence of language and CEO celebrity.




Another potential future research direction lies in further distinguishing among different types of celebrity CEOs. Lovelace et al. (2018) identified four different celebrity CEO archetypes that they argue constrain the actions celebrity CEOs can engage in. Although there is no clear theoretical reason to expect they use the language attributes we considered differently, future research could explore whether and why they use other language attributes differently. Future research can also explore whether celebrity CEOs associated with particular archetypes are more likely to achieve different levels of celebrity.

A third potential future research direction relates to attaining celebrity. While past research has focused on demographics, strategic nonconformity, firm performance, and media coverage, language may also be an antecedent to celebrity. Indeed, communication has long been tied to leadership emergence and may serve as an important differentiation mechanism that allows CEOs to attract heightened attention. Accordingly, future studies may examine the interplay between CEO communication and attaining celebrity. This may be especially relevant for new firms where financial performance is poor but storytelling can influence perceptions of the organization and its leaders (Martens et al., 2007).

## Conclusion

Social evaluations play an important role in shaping stakeholders' perceptions and behaviors; however, their role in influencing corporate communications has not been well studied. We explored whether celebrity CEOs use language that affects firm stakeholders more frequently. Our findings that CEOs speak differently than noncelebrities are important because research shows that words do indeed move markets. Social evaluations do far more than send signals that reduce perceived uncertainty; they shape the language used as firms and their stakeholders socially construct accounts of firm's actions (Ginzel et al., 1993) and how stakeholders interpret them.

## ORCID iDs

Timothy G. Pollock  <https://orcid.org/0000-0003-2524-5250>  
 Roberto Ragozzino  <https://orcid.org/0000-0001-7801-4582>  
 Dane P. Blevins  <https://orcid.org/0000-0002-9292-7174>

## Notes

1. We employ Lovelace, Bundy, Pollock, and Hambrick's (2022) terminology, which they adopted from the entertainment industry.

2. Seeking Alpha covers companies based on its subscribers' preferences. Our sample accounts for roughly 70% of the New York Stock Exchange's and Nasdaq's combined market cap. The full list of companies can be obtained through Seeking Alpha at [https://docs.google.com/spreadsheets/d/1PVR-En1V3CP6ICX6uJW1yem\\_kpPY1-bofZK00hBa5eU/edit#gid=0](https://docs.google.com/spreadsheets/d/1PVR-En1V3CP6ICX6uJW1yem_kpPY1-bofZK00hBa5eU/edit#gid=0).

3. In analyses not reported here, we also recalculated our dependent variables using the scripted (introductory) portions of the transcripts. The results were generally similar; the only outcome for which there was no significant relationship was relative concreteness.

4. Hubbard, Pollock, Pfarrer, and Rindova (2018) also added a third component, nonconforming language, although they found excluding this component did not change their results. We explore this alternative in our robustness tests.

5. These sources include, in alphabetical order, *Atlanta Journal and Constitution*, *Daily News*, *Detroit News*, *Florida Times*, *New York Post*, *The New York Times*, *Newsday*, *Orange County Register*, *San Diego Union Tribune*, *Star Tribune*, *Philadelphia Inquirer*, *USA Today*, *Wall Street Journal* (abstracts), and the *Washington Post*.

6. Additional details on the methodology can be obtained from Hubbard et al. (2018).

7. We also included nonconforming language as an additional parameter. While this resulted in different celebrity CEO counts, the interpretation of our results is unchanged. We go over these and other tests we performed in detail in the Robustness Checks section of the paper.

8. Mean = 2.75 transcripts, median = 2 transcripts, range = 1 to 16 transcripts for celebrity CEOs; mean = 2.38 transcripts, median = 2 transcripts, range = 1 to 25 transcripts for noncelebrity CEOs.

9. We also experimented with coding CEOs as celebrities ever year after the first occurrence. We discuss these supplementary analyses in the Robustness Checks section of the results.

10. We use the Fama-French 12-industry definition to separate the following industries: (a) Food, Tobacco, Textiles, Apparel, Leather, Toys; (b) Cars, TVs, Furniture, Household Appliances; (c) Machinery, Trucks, Planes, Office Furniture, Paper, Computer Printing; (d) Oil, Gas, and Coal Extraction and Products; (e) Chemicals and Allied Products; (f) Computers, Software, and Electronic Equipment; (g) Telephone and Television Transmission; (h) Utilities; (i) Wholesale, Retail, and Some Services (Laundries, Repair Shops); (j) Healthcare, Medical Equipment, and Drugs; (k) Finance; (l) Other—Mines, Construction, Building Materials, Transportation, Hotels, Business Services, Entertainment.

11. We use the Compustat Index Constituencies database to determine which firms belonged in the S&P 500.

12. The "hard" matching criteria we adopt, which result in an "in-or-out" outcome, do not require more formal statistical matching procedures, such as propensity score matching or coarsened exact matching.

13. We were unable to collect complete data on these dimensions, so we cannot use these measures as control variables without significantly reducing our sample size.

14. Similar proportions of celebrity and noncelebrity CEOs held an advanced degree (i.e., a PhD, JD, or MD, 13.74% vs. 13.83%) or an MBA (32.36% vs. 36.00%); 94.06% of celebrity CEOs were born in the United States, vs. 94.71% of noncelebrity CEOs. Finally, 5.79% of celebrity CEOs were female, vs. 4.81% of noncelebrity CEOs.

15. For reference, we used Python 2.7 and SAS 9.4 to codify the earnings calls data and Stata 14 to estimate the multivariate models.

16. Changing the media data sources meant we potentially changed which CEOs were celebrities and which matching firms were in our analysis. Thus, consistent results provides strong evidence of our findings' robustness.

17. University of North Carolina Hussman School of Journalism and Media, <https://www.usnewsdeserts.com/reports/expanding-news-desert/>.



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