Using Abstract Language Signals Power

Cheryl J. Wakslak
University of Southern California

Pamela K. Smith
University of California, San Diego

Albert Han
University of Southern California

Power can be gained through appearances: People who exhibit behavioral signals of power are often treated in a way that allows them to actually achieve such power (Ridgeway, Berger, & Smith, 1985; Smith & Galinsky, 2010). In the current article, we examine power signals within interpersonal communication, exploring whether use of concrete versus abstract language is seen as a signal of power. Because power activates abstraction (e.g., Smith & Trope, 2006), perceivers may expect higher power individuals to speak more abstractly and therefore will infer that speakers who use more abstract language have a higher degree of power. Across a variety of contexts and conversational subjects in 7 experiments, participants perceived respondents as more powerful when they used more abstract language (vs. more concrete language). Abstract language use appears to affect perceived power because it seems to reflect both a willingness to judge and a general style of abstract thinking.

Keywords: power, perception, distance, abstraction, social judgment

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Managing other's impressions of one's power is a critical skill. Being seen as powerful can elicit treatment from others that allows one to actually achieve such power (Ridgeway, Berger, & Smith, 1985; Smith & Galinsky, 2010). Having power means having more control over one's own life and therefore is associated with numerous positive outcomes for the individual, including an increased ability to achieve one's goals (e.g., Galinsky, Gruenfeld, & Magee, 2003; Guinote, 2007; Karremans & Smith, 2010) and the goals of one's organization (Overbeck & Park, 2006), increased freedom to express oneself (e.g., Anderson & Berdahl, 2002), and behave in line with one's core values (e.g., Chen, Lee-Chai, & Bargh, 2001; DeCelles, DeRue, Margolis, & Ceranic, 2012), and even an array of positive health outcomes (e.g., Marmot et al., 1991; Sherman et al., 2012). Thus, the possession of power is often a goal in itself. Moreover, individuals who occupy high-power positions but are not perceived as powerful risk their position being viewed as illegitimate (Magee & Galinsky, 2008). Although

Cheryl J. Wakslak, Marshall School of Business, University of Southern California; Pamela K. Smith, Rady School of Management, University of California, San Diego; Albert Han, Marshall School of Business, University of Southern California.

Cheryl J. Wakslak and Pamela K. Smith contributed equally to this article.

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Correspondence concerning this article should be addressed to Cheryl J. Wakslak, Marshall School of Business, University of Southern California, 3670 Trousdale Parkway, Los Angeles, CA 90089, or Pamela K. Smith, Rady School of Management, University of California, San Diego, 9500 Gilman Drive #0553, La Jolla, CA 92093. E-mail: wakslak@marshall .usc.edu or psmith@rady.ucsd.edu

some behaviors signaling power may be difficult to enact with limited resources (e.g., loaning money, exerting influence, taking action; Goldhamer & Shils, 1939), others may be relatively easy to adopt (e.g., a lower pitched voice; Carney, Hall, & Smith LeBeau, 2005). In the current article, we examine whether a person's use of relatively concrete or abstract language can serve as a subtle but meaningful signal of power, exploring this idea across six studies that manipulate linguistic abstraction in various ways and measure power and leadership inferences.

Linguistic Abstraction as a Power Cue

Recent research on power inferences has increasingly emphasized the subtle ways that people signal their degree of power. Converging evidence suggests that when power is associated with a behavioral signal, people become sensitive to the signal itself, leading them to infer the presence of power when witnessing the associated behavior (Smith & Galinsky, 2010). For example, Galinsky et al. (2003) found that having power is associated with taking action (e.g., being more likely to act on an external stimulus, such as an annoying fan blowing in one's direction); people's sensitivity to this association is highlighted by their corresponding perception of those who take more action as being more powerful (Magee, 2009). Likewise, individuals placed in a powerful role tend to lower their voice pitch (Puts, Gaulin, & Verdolini, 2006), and individuals asked to speak with a lower pitched voice (vs. their normal voice) not only feel more powerful (Stel, van Dijk, Smith, van Dijk, & Djalal, 2012), but are also judged by observers as having more power (Puts et al., 2006; Puts, Hodges, Cardenas, & Gaulin, 2007).

The central premise of the current article is that a speaker's use of more abstract language may serve as a cue that the speaker is

powerful. A behavioral signal approach suggests one reason that power may be inferred from linguistic abstraction. Power triggers a broad psychological shift toward abstract processing (Smith & Trope, 2006), whereby people in higher power roles (or who momentarily feel more powerful) increasingly construe information in an abstract fashion that captures the gist or essence of the presented information (Huang, Galinsky, Gruenfeld, & Guillory, 2011; Magee, Milliken, & Lurie, 2010; Smith & Trope, 2006; Stel et al., 2012; see also Magee & Smith, 2013, for a recent review). In other words, power is associated with the cognitive signal of abstract thinking. Indeed, being made to think in a more abstract manner also makes individuals feel more powerful (Smith, Wigboldus, & Dijksterhuis, 2008). Though thought processes are sometimes considered unobservable, these cognitive effects of power can lead to different outputs that are visible to perceivers. A major example of this is linguistic communication: When discussing a topic, a speaker may express information either in a more concrete way that provides many details and emphasizes specific actions or features or in a more abstract way that captures a topic's overall gist or meaning. For example, a speaker discussing a massive earthquake might state either that 120 people died and 400 were injured (a concrete statement conveying specific details) or that the earthquake is a national tragedy (an abstract statement conveying higher level meaning). Consistent with a general power–abstraction relationship, several studies have revealed that those high in power use more abstract language than those low in power. For example, members of a majority, high-power group used more abstract language to describe both ingroup and outgroup members than individuals who were part of the minority (Guinote, 2001); high-power-primed participants used more abstract language to describe actions than low-power-primed participants (Smith & Trope, 2006); and those in positions of authority used more abstract language to describe the terrorist attacks of September 11th (Magee et al., 2010). Abstract language may therefore serve as a power signal, with people expecting those higher in power to speak more abstractly, and consequently perceiving people who speak more abstractly as more powerful.

Furthermore, beyond a mere association, abstract language reflects a more removed, "outside" perspective, and is highly linked with psychological distance (Trope & Liberman, 2010). This style of speech fits our expectations of the powerful: We expect powerful people to be outside and above things, rather than in the midst of them (Giessner & Schubert, 2007). When people use abstract language, they communicate that they are removed from the action and able to distill the gist or essence of the situation, instead of focusing on the concrete actions that would be most salient if they were "on the ground." This ability to see the big picture is something we expect of those with power; as such, abstract language should serve as a power cue.

Moreover, one aspect of many types of abstract speech is that such speech confers judgment (Maass, 1999; Maass, Salvi, Arcuri, & Semin, 1989). Abstract language, relative to concrete language, moves further away from specific, objective, immediate physical details. To move away from these details, the speaker must make judgments about the broader meaning or implications of the situation, the broader goals of the actor or actors, and the like. For example, adjectives have been identified as more abstract linguistic categories than verbs (Semin & Fiedler, 1988) in that they do not describe the actions that occurred but rather represent an inference about the relatively invariant characteristics of the actor. Such an inference leads adjectives to tend to connote judgment and be more strongly valenced than concrete verb descriptions (Semin & Fiedler, 1988).

Power is also associated with being judgmental. High-power individuals are more likely to express their opinions (Anderson & Berdahl, 2002; Berdahl & Martorana, 2006; Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008) and feel more entitled to judge others (Goodwin, Gubin, Fiske, & Yzerbyt, 2000) than low-power individuals. Moreover, other people seem to allow, and even expect, those in high-power positions to evaluate others and express judgment (e.g., Foucault & Gordon, 1980). People's belief that powerful people are more judgmental may therefore be an additional mechanism supporting their use of linguistic abstraction as a cue for power.

However, although we believe the association between linguistic abstraction and perception of power is logical for the reasons detailed above, we do not think this association is especially obvious to those who seek power. That is, although people may be aware of their expectation for those high in power to communicate the "big picture," they may not realize that people will make meaningful inferences about a speaker's power on the basis of his or her linguistic abstraction. Indeed, though individuals are able to use language abstraction flexibly to achieve explicit communication goals (e.g., Douglas & Sutton, 2003), it is not clear that communicators are always aware of their language use or its interpretation by perceivers; to the contrary, a body of research suggests that communicators often do not have an accurate sense of how their speech is interpreted by others (e.g., Keysar & Henly, 2002; Vorauer & Claude, 1998). The many past examples of speakers focusing on concrete details while hoping to seem powerful (e.g., the wonky political candidate) suggest that the idea of abstraction as a cue for power is not a trivial insight.

Overview of the Current Studies

We tested the hypothesized effect of abstract language on power perceptions across seven experiments. First, we describe a simple pilot study testing our claim that people expect those high in power to increasingly communicate the gist of a situation, its "big picture." Next, we describe our focal experiments, wherein we varied the abstractness of speech and had respondents make power judgments of the speaker. Across these experiments, we varied the types of speech—from phrases and single sentences (Experiments 1–2, 4–6) to short paragraphs (Experiments 3a–3b), from descriptions of simple behaviors (Experiments 1–2, 5), to consumer products (Experiments 4 and 6), to societal issues (Experiments 3a–3b), and using negative and positive statements (Experiments 1–2, 5) as well as relatively neutral ones (Experiments 3a–3b)—to test for consistency of effects. Across these different manipulations, our operationalization of abstract language always involved emphasizing gist, or capturing defining aspects of the event (see Trope & Liberman, 2010). In the majority of studies, we asked participants to evaluate communicators' power explicitly, although in Experiment 4, we also added a more indirect measure of power perceptions. In Experiments 5 and 6, we explored two possible mediators of the relationship between language and perceived power: perceptions of abstract thinking and judgmentalness.

Moreover, to demonstrate that our effects are related to power specifically, in addition to assessing how abstract language affected judgments of power, we also assessed how abstract language affected judgments of two other personality dimensions: warmth and competence. Douglas and Sutton (2010) found that abstract language sometimes affects likability, so we wanted to ascertain whether our effects were due to a halo effect, in which perceivers generally prefer individuals who use abstract language to individuals who use concrete language and thus evaluate individuals who use abstract language positively on a variety of traits. Competence may also be plausibly associated with the use of more abstract language. For example, action identification theory posits that individuals switch from more abstract to more concrete action identifications as they encounter difficulty in completing an action (Vallacher & Wegner, 1987), and individuals who chronically prefer to describe actions more concretely tend to be less proficient at a variety of skilled actions (Vallacher & Wegner, 1989). If individuals are sensitive to this association with proficiency, it is possible that they will infer competence from a general abstract style of speech. It also seems possible that the reverse effect will be obtained, given that concrete speech conveys more details and is more easily verifiable (Hansen & Wänke, 2010) and therefore may signal knowledgeability. We therefore did not have any strong expectation for effects of abstraction on competence judgments. However, because power and competence are often related judgments (although, critically, these two characteristics are not always correlated; e.g., Fast & Chen, 2009), we felt it important to disentangle any effects of language on these two characteristics. Although it is plausible that abstract language will have some impact on judgments of warmth and competence, we expect it to have the most consistent, unique effects on judgments of power.

Methodologically, we set consistent exclusion criteria across studies. Because our studies involved judgments of linguistic statements, we excluded participants who did not report that English was their first language. We also excluded all participants who did not correctly answer an instructional manipulation check (IMC; Oppenheimer, Meyvis, & Davidenko, 2009). The IMC asked them to enter or select a specific response to a particular question in the demographics section (Experiments 1, 3a–6) or to recall which word in a list was used in the experimental materials (Experiment 2). The number of participants dropped for meeting these exclusion criteria varied somewhat across studies, although they were consistent with recent descriptions of the range of data excluded due to poor quality (3%–37%) found in published articles using Mechanical Turk (mTurk) samples (Chandler, Mueller, & Paolacci, 2013). Consistent with the recommendations of Simmons, Nelson, and Simonsohn (2011), we initially set target sample sizes such that conditions would have at least 20 participants per condition (because manipulations were primarily within subject, this meant that studies had a minimum of 20 people). Given more recent urging for researchers to increase the sample sizes they use more dramatically (e.g., Simmons, Nelson, & Simonsohn, 2013), studies completed later in the research process (particularly Experiments 2, 5, and 6) used much larger sample sizes.

Pilot Study

To substantiate our argument that powerful people are expected to focus on the gist of situations, we conducted a pilot study in which we asked 20 participants from Amazon's mTurk online survey site (12 women; M_{age} = 31.10 years; SD_{age} = 8.29) to indicate their general expectations about the types of things said by people high versus low in power. Participants responded to a series of bipolar items that gauged a tendency to capture the gist of the situation and focus on an event's primary aspects, versus communicate more secondary details. More specifically, participants first indicated the extent to which they expected "someone high in power" to provide lots of details versus provide a global picture, convey mechanics or how to do something versus convey purpose or why to do something, capture supporting or secondary points versus capture essential and defining points, and focus on the particular case versus focus on the general case[1] (α = .74). Each item consisted of a 7-point scale, with the first point labeled with the more concrete behavior in the pair (e.g., *provide lots of details*) and the last point labeled with the more abstract behavior (e.g., *provide a global picture*). Participants then rated their expectations of "someone low in power" on the same series of items (α = .57). In line with the general logic of our argument, paired samples t tests conducted on average responses to the four-item measure indicated that people expected high-power individuals (M = 5.19, SD = 1.48) to communicate more of the gist of a situation, as compared with low-power individuals (M = 2.88, SD = 1.11), $t(19)$ = 4.11, p = .001 (for individual item means and associated p values, see Table 1).

Having thus demonstrated that people have the general expectation that high-power individuals will be more likely to communicate the gist of a situation relative to low-power individuals, we next explored one implication of this expectation: People's judgments of a target's power should be systematically impacted by manipulations of the target's degree of linguistic abstraction.

Experiment 1: Picture Descriptions

In our first experiment, participants read descriptions of pictures depicting a person's behavior; these descriptions, ostensibly written by respondents from a previous study, used either concrete terms that closely described the event depicted in the picture itself or abstract terms that captured the picture's meaning but extrapolated beyond the actual event depicted. As past research has revealed that people make trait inferences about speakers in part based on the valence of their communications (e.g., Douglas & Sutton, 2010), we included both positive and negative stimuli to test whether the effect of language on power judgments would be consistent across valence. Thus, some of the pictures depicted positive behaviors, and others depicted negative behaviors. For each description of a picture, participants indicated their impression of the person who wrote the description on the dimensions of power, warmth, and competence.

Method

Participants. Thirty participants participated via Amazon's mTurk online survey site for $0.25. We excluded all participants who met our exclusion criteria (nonnative English speakers and

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[1] An additional item (convey less meaning vs. convey more meaning) was not included because it had a negative item-total correlation and brought down alpha considerably.

Table 1

Means (and Standard Deviations) of Expectations of High-Power and Low-Power Individuals (Pilot Study)

Question	High power	Low power	p
1. Provide lots of details (1); Provide a global picture (7)	5.45 (1.85)	2.40 (1.27)	<.001
2. Convey mechanics, or how to do something (1); Convey purpose, or why to do something (7)	5.10 (2.20)	2.60 (1.64)	.006
3. Capture supporting or secondary points (1); Capture essential and defining points (7)	5.55 (1.57)	3.05 (1.79)	.002
4. Focus on the particular case (1); Focus on the general case (7)	4.65 (2.21)	3.45 (1.93)	.194

those who failed an IMC);[2] in this case, this consisted of one nonnative English speaker, leaving us with a total sample size of 29 (18 women; M_{age} = 36.14 years, SD = 12.96).

Materials and procedure. Participants were told the study was about how people form initial impressions of someone's personality on the basis of the things they say and do. They were told that, in a previous study, other participants (hereafter called *respondents*) were asked to describe a series of pictures, and now in the current study, they would see some of these responses. For each one, participants were to indicate what sort of impression they had of the respondent by rating them on the items provided.

Participants then viewed a series of pictures, each depicting a person's behavior (e.g., a woman studying in a library).[3] Each picture was accompanied by either a concrete or an abstract description ostensibly generated by another respondent. Concrete descriptions focused on the particular action depicted in the picture (e.g., Barbara is writing notes); abstract descriptions went beyond the particular action and provided a broader label that did not involve physical details (e.g., Barbara is working hard). That is, a person who read the concrete description could easily imagine the specific picture used, whereas a person who read the abstract description might imagine one of a variety of different pictures. Two pictures depicted negative behaviors (spray-painting graffiti, littering), and two depicted positive behaviors (writing notes, holding the door for someone). We presented, in random order, each of these four pictures twice: once with a concrete description, once with an abstract description. Thus, both valence of the behavior and language abstraction were manipulated within subjects. For each picture–description pair, participants rated the respondent on measures of power (*dominant*, *powerful*, *in control*; αs = .76–.82), warmth (*friendly*, *trustworthy*, *likable*; αs = .82–.94), and competence (*knowledgeable*, *competent*; αs = .73–.96) using 7-point Likert-type scales (1 = *not at all*, 7 = *very much*). Finally, at the end of this and all subsequent experiments, we administered an IMC (Oppenheimer, Meyvis, & Davidenko, 2009). Materials for this and all other studies are presented in the supplemental material.

Results and Discussion

We conducted a series of 2 (valence: negative vs. positive) × 2 (language: concrete vs. abstract) repeated measures analyses of variance (ANOVAs) on ratings of power, warmth, and compe-

tence. Means and standard deviations are reported in Table 2. As predicted, participants rated respondents who wrote abstract descriptions as more powerful (M = 4.25, SD = 1.10) than respondents who wrote concrete descriptions (M = 3.85, SD = 0.75), $F(1, 28)$ = 4.85, p = .04, η_p^2 = .15. Respondents describing positive behaviors (M = 4.26, SD = 0.89) were also seen as more powerful than respondents describing negative behaviors (M = 3.84, SD = 0.89), $F(1, 28)$ = 8.64, p = .007, η_p^2 = .24. The interaction between level of abstraction and valence was nonsignificant (F < 1). Abstract respondents were judged to be more powerful than concrete respondents, regardless of whether the respondent described a positive or a negative behavior.

In contrast, there were no main effects of language on warmth or competence ratings (ps > .09). Rather, there was a significant interaction of language and valence for warmth ratings, $F(1, 28)$ = 14.02, p = .001, η_p^2 = .33, and competence ratings, $F(1, 28)$ = 5.10, p = .03, η_p^2 = .15. When positive behaviors were described, abstract respondents were seen as warmer than concrete respondents, $F(1, 28)$ = 4.23, p = .05, η_p^2 = .13, but no more competent (F < 1). However, when negative behaviors were described, concrete respondents were seen as both warmer, $F(1, 28)$ = 11.11, p = .002, η_p^2 = .28, and more competent, $F(1, 28)$ = 5.63, p = .02, η_p^2 = .17, than abstract respondents. The warmth pattern is consistent with previous research showing that respondents are liked more when they describe positive behaviors abstractly and negative behaviors concretely (Douglas & Sutton, 2010).

Overall, the results from this first experiment provided support for the predicted relationship between abstract language and perceptions of power. In contrast, abstract respondents were not seen as more competent than concrete respondents, and were only seen as warmer than concrete respondents when they were describing positive behaviors.

Experiment 2: Behavior Descriptions

Experiment 2 conceptually replicates Experiment 1 using a variation on the Behavioral Identification Form (Vallacher & Wegner, 1989), a widely used measure of chronic or temporary preferences for concrete versus abstract language. Participants saw descriptions of behaviors ostensibly written by respondents from a previous study. These descriptions depicted either the concrete means through which the behavior might be accomplished or the abstract ends achieved by completing the behavior. Again, as in Experiment 1, some of the behaviors were positive and others were negative to test whether the effect of language on power judgments would be consistent across valence. After reading a behavior–description pair, participants rated the respondent's power, warmth, and competence as in the previous experiment. Given the previously discussed association between judgmentalness and abstract language, we also had participants rate each respondent's judgmentalness.

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[2] Including nonnative English speakers and people who failed attention checks did not appreciably change the results in this or any other experiment.

[3] Pictures were taken from Google images but inspired by materials generously shared by Karen Douglas and used in Douglas and Sutton (2006).

Method

Participants. One hundred thirty participants participated via mTurk for $0.50. We excluded six non-native English speakers and 33 additional participants who failed the IMC for a total sample size of 91 (38 women; M_{age} = 31.44 years, SD = 9.99).[4]

Materials and procedure. Participants in Experiment 2 were told they would read descriptions of behaviors written by other respondents and were to form impressions of these previous respondents and rate them on various traits. They then saw a behavior (e.g., sweeping the floor) followed by a concrete ("moving a broom") or abstract ("being clean") description of it on each of the following screens. Out of the eight different behaviors participants saw (either selected from Fujita, Trope, Liberman, & Levin-Sagi, 2006, or Vallacher & Wegner, 1989, or written by the authors), four were negative (e.g., failing a test) and four were positive (e.g., washing clothes). For each behavior type, half were followed by a concrete description, half by an abstract description. Six stimuli sets were created, with half of the items containing a concrete description and half an abstract description; each participant saw only one set, with behavior–description pairs themselves presented in random order, and each behavior only presented once per participant. For example, some participants saw, "Person D was presented with this behavior: Ignoring someone, and described it as: Not saying hello" (i.e., concrete description), whereas other participants saw, "Person D was presented with this behavior: Ignoring someone, and described it as: Showing dislike" (i.e., abstract description). After reading each behavior–description pair, participants rated the respondent on measures of power (*dominant*, *powerful*, *in control*; αs = .70–.86), warmth (*friendly*, *trustworthy*, *likable*; αs = .78–.92), competence (*knowledgeable*, *competent*; αs = .94–.99), and judgmentalness (*judgmental*).

Results and Discussion

We conducted a series of 2 (valence: negative vs. positive) × 2 (language: concrete vs. abstract) repeated measures ANOVAs on ratings of power, warmth, competence, and judgmentalness. Means and standard deviations are reported in Table 3. As predicted, participants perceived respondents who wrote abstract descriptions (M = 4.16, SD = 0.75) as more powerful than respondents who wrote concrete descriptions (M = 3.96, SD = 0.66),

Table 2

Means (and Standard Deviations) of Respondent Ratings as a Function of Language Abstraction and Behavior Valence (Experiment 1)

Rating	Language	Valence	
		Negative	Positive
Power			
	Concrete	3.66 (0.77)	4.05 (0.91)
	Abstract	4.03 (1.35)	4.48 (1.11)
Warmth			
	Concrete	4.22 (1.20)	4.89 (0.76)
	Abstract	3.43 (1.39)	5.21 (0.90)
Competence			
	Concrete	4.53 (1.31)	5.05 (0.87)
	Abstract	4.07 (1.40)	5.10 (1.07)

Table 3

Means (and Standard Deviations) of Respondent Ratings as a Function of Language Abstraction and Behavior Valence (Experiment 2)

Rating	Language	Valence	
		Negative	Positive
Power			
	Concrete	3.83 (0.84)	4.09 (0.80)
	Abstract	4.10 (0.93)	4.22 (0.81)
Warmth			
	Concrete	4.17 (1.01)	4.50 (0.74)
	Abstract	3.86 (1.07)	4.67 (0.75)
Competence			
	Concrete	4.23 (1.12)	4.65 (0.91)
	Abstract	4.34 (1.24)	4.84 (0.92)
Judgmental			
	Concrete	4.13 (1.23)	3.63 (1.16)
	Abstract	4.83 (1.29)	3.54 (1.01)

$F(1, 90)$ = 6.38, p = .013, η_p^2 = .07. Respondents describing positive behaviors (M = 4.16, SD = 0.65) were also seen as more powerful than respondents describing negative behaviors (M = 3.96, SD = 0.69), $F(1, 90)$ = 9.23, p = .003, η_p^2 = .09. The interaction between level of abstraction and valence was nonsignificant ($F < 1$). Again, abstract respondents were judged as more powerful than concrete respondents, regardless of whether the respondent described a positive or a negative behavior.

In contrast, no significant main effect of abstraction emerged on warmth ratings ($F < 1$); rather, a significant main effect of valence emerged, $F(1, 90)$ = 38.23, $p < .001$, η_p^2 = .30, as well as a significant interaction between valence and abstraction, $F(1, 90)$ = 12.29, p = .001, η_p^2 = .12. With positive behaviors, abstract respondents were seen as warmer than concrete respondents, $F(1, 90)$ = 5.75, p = .02, η_p^2 = .06. However, with negative behaviors, concrete respondents were seen as warmer than abstract respondents, $F(1, 90)$ = 6.84, p = .01, η_p^2 = .07. As in Experiment 1 (and consistent with Douglas & Sutton, 2010), respondents were perceived as warmer when they described negative behaviors concretely and positive behaviors abstractly.

Only valence had a significant effect on competence ratings, $F(1, 90)$ = 21.54, $p < .001$, η_p^2 = .19 (other $ps > .09$). Respondents describing positive behaviors (M = 4.75, SD = 0.78) were seen as more competent than respondents describing negative behaviors (M = 4.29, SD = 1.04).

There were significant main effects of abstraction, $F(1, 90)$ = 8.13, p = .005, η_p^2 = .08, and valence, $F(1, 90)$ = 74.27, $p < .001$, η_p^2 = .45, on judgmentalness ratings, but these were qualified by a significant interaction effect, $F(1, 90)$ = 12.23, p = .001, η_p^2 = .12. With positive behaviors, language had no effect on judgmentalness ratings ($F < 1$). However, with negative behaviors, abstract re-

[4] We suspect the relatively high number of people who failed the IMC in Experiment 2 was due to the relative difficulty of the IMC used in this study (which asked participants to remember which word was used earlier in the study), as compared with the IMC used in our other studies (which asked participants to enter or select a particular response as indicated in the IMC question itself). Other researchers have similarly found their exclusion rates increase with more difficult IMC questions (e.g., Goodman, Cryder, & Cheema, 2013).

spondents were seen as more judgmental than concrete respondents, $F(1, 90) = 13.95$, $p < .001$, $\eta_p^2 = .13$.

Overall, the results from these first two experiments suggest a robust relationship between abstract language and perceptions of power that cannot be explained by other personality dimensions. However, the previous two experiments focused on abstract language within the domain of person perception, leaving open the possibility that it is not abstract language per se, but rather speaking abstractly about other people in particular that serves as a power signal. Therefore, in Experiments 3a, 3b, and 4, we sought to replicate this basic pattern with a wider variety of content.

Experiments 3a and 3b: Political Communication

In Experiments 3a and 3b, we studied concrete and abstract language within the meaningful real-world context of politics. We created concrete and abstract "quotations" regarding political events that were relevant at the time of data collection (fall 2011). In Experiment 3a, we presented these quotes one at a time, as in the previous experiments. These singular quotations emulate sound bites and newspaper articles quoting a single politician. In Experiment 3b, we presented both concrete and abstract quotes about a topic simultaneously. This format mirrors political debates and newspaper articles comparing the viewpoints of two different politicians. We again included ratings of power, warmth, competence, and judgmentalness. In addition, we were concerned that our concrete respondents might be seen as less powerful because they included irrelevant details and thus sounded awkward or unnatural. To test this, we asked participants to rate each quote on its unusualness of speech.

Pilot Test

We created one concrete and one abstract quote for nine topics from major political stories, drawing on quotations from the president or presidential candidates in fall 2011. To ensure these quotations differed in abstraction, but were of similar valence, these materials were pilot tested on 29 mTurk participants. Four participants were excluded from analyses (three because they did not indicate whether they were native English speakers and one who failed the IMC), for a total sample size of 25 (18 women; $M_{age} = 29.88$ years, $SD = 11.26$). Participants rated each quote separately on 5-point scales for abstraction (1 = *very concrete*, 5 = *very abstract*) and valence (1 = *very negative*, 5 = *very positive*). On the basis of the pilot data, we selected four topic and quote sets to use as our stimuli in Experiments 3a and 3b: American Jobs Act, jobs and the economy, Occupy Wall Street, and Arab Spring. For each topic, the abstract[5] quote ($M_{overall} = 3.56$, $SD = 0.76$) was rated as significantly more abstract than the concrete quote ($M_{overall} = 2.46$, $SD = 0.88$; $ts > 2.33$, $ps < .03$). For the "American Jobs Act" topic ($M_{concrete} = 3.64$, $M_{abstract} = 3.68$) and "jobs and the economy" topic ($M_{concrete} = 1.84$, $M_{abstract} = 1.64$), the abstract and concrete quotes did not differ in valence ($ts < 1.16$, $ps > .25$). For the "Occupy Wall Street" topic, the concrete quote ($M = 3.12$) was more positive than the abstract quote ($M = 2.60$), $t(24) = 2.59$, $p = .02$. For the "Arab Spring" topic, the abstract quote ($M = 3.92$) was more positive than the concrete quote ($M = 3.44$), $t(24) = 2.30$, $p = .03$. Thus, averaging across the four topics, the concrete ($M = 3.01$, $SD = 0.50$) and

abstract quotes ($M = 2.96$, $SD = 0.59$) had similar valence ratings ($F < 1$). Quotes are presented in the supplemental material.

Method

Participants. Sixty-two mTurk participants completed Experiment 3a for $0.50. Five participants were excluded (three nonnative English speakers and two who did not correctly answer the IMC), for a total sample size of 57 (33 women; $M_{age} = 36.82$ years, $SD = 12.50$).

Thirty mTurk participants were recruited for Experiment 3b for $0.50. One participant was excluded for failing the IMC, for a total sample size of 29 (19 women; $M_{age} = 33.45$ years, $SD = 9.81$).

Materials and procedure. Participants in Experiment 3a were told that they would be presented with a topic (e.g., Occupy Wall Street) and a politician's quote on that topic and were to rate their impression of the politician on the basis of the way each politician communicated their views, rather than on the particular view itself. Each of the four topics was presented twice, once with a concrete quote and once with an abstract quote, with each quote attributed to a different politician (e.g., "Politician A"). Each topic–quote pair was followed by the same measures of power ($\alpha s = .86$–$.89$), warmth ($\alpha s = .88$–$.94$), competence ($\alpha s = .89$–$.94$), and judgmentalness used in Experiment 2. In addition, we included one item for unusualness of speech ("speaking in an unusual way") and two items measuring leadership perceptions ("a leader"; "a high-ranking official"; $\alpha s = .72$–$.84$). All items were administered on 7-point Likert-type scales (1 = *not at all*, 7 = *very much*).

In Experiment 3b, each topic was presented only once, with the corresponding concrete and abstract quotes presented at the same time. One quote was attributed to "Politician A," the other to "Politician B" (which quote was designated A vs. B was randomized). After reading the topic and two quotes, participants completed, on 7-point scales, the same measures of power ($\alpha s = .86$–$.95$), warmth ($\alpha s = .79$–$.91$), competence ($\alpha s = .70$–$.95$), judgmentalness, unusualness of speech, and leadership ($\alpha s = .63$–$.84$) used in Experiment 3a, with appropriately modified scale anchors (1 = *Describes politician A exclusively*, 4 = *Describes politician A and B equally*, 7 = *Describes politician B exclusively*).

Results and Discussion

Experiment 3a data were analyzed similarly to previous experiments. However, in Experiment 3b, participants rated the two types of respondents simultaneously on a single scale. Before the data from Experiment 3b were analyzed, responses were recoded so that higher numbers indicated that the trait described the abstract politician more and the concrete politician less. Because 4 was the midpoint of the scale, we used one-sample t tests to

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[5] We acknowledge that these quotes were not extremely concrete or extremely abstract. In constructing these quotes, we found that extremely abstract and extremely concrete quotes both tended to sound too unusual and artificial. Nonetheless, the concrete quotes we used were, on average, rated significantly below the midpoint of the scale (i.e., 3) for abstractness, $t(24) = -3.07$, $p = .005$, and the abstract quotes we used were, on average, rated significantly above the midpoint for abstractness, $t(24) = 3.69$, $p = .001$.

measure whether participants' responses were significantly different from 4. If responses were significantly higher than 4, it meant they thought the abstract politician was higher on that trait than the concrete politician. If responses were significantly lower, they thought the concrete politician was higher on that trait than the abstract politician.

Consistent with our previous findings, politicians were seen as more powerful when they communicated abstractly versus concretely, both when each quote was presented separately in Experiment 3a ($M_{abstract} = 4.37$, $SD = 0.97$ vs. $M_{concrete} = 4.16$, $SD = 0.86$), $F(1, 56) = 4.18$, $p < .05$, $\eta_p^2 = .07$, and when the politicians were rated in direct comparison with one another in Experiment 3b ($M = 4.50$, $SD = 0.88$), $t(28) = 3.08$, $p = .005$.

Analysis of the leadership items showed a similar pattern. Abstract politicians were viewed more as leaders than concrete politicians, marginally in Experiment 3a ($M_{abstract} = 4.30$, $SD = 0.94$ vs. $M_{concrete} = 4.14$, $SD = 0.81$), $F(1, 56) = 3.17$, $p = .08$, $\eta_p^2 = .05$, and significantly in Experiment 3b ($M = 4.53$, $SD = 0.74$), $t(28) = 3.84$, $p = .001$.

For warmth, concrete and abstract politicians were rated as equally warm in Experiment 3a ($F < 1$), but in Experiment 3b, abstract politicians were rated as warmer than concrete politicians ($M = 4.30$, $SD = 0.75$), $t(28) = 2.16$, $p = .04$. For competence, concrete and abstract politicians were rated as similarly competent in Experiments 3a and 3b (ts < 1.25, ps > .22).

Perceptions of judgmentalness and unusualness of speech were not consistently affected by concrete versus abstract communication. In Experiment 3a, abstract politicians ($M = 4.07$, $SD = 1.36$) were seen as much more judgmental than concrete politicians ($M = 3.35$, $SD = 1.28$), $F(1, 56) = 23.17$, $p < .001$, $\eta_p^2 = .29$, but participants in Experiment 3b saw concrete and abstract politicians as equally judgmental ($M = 4.02$, $SD = 0.83$), $t(28) = 0.15$, $p = .88$. In Experiment 3a, concrete ($M = 2.68$, $SD = 1.27$) and abstract politicians ($M = 2.55$, $SD = 1.31$) were seen as using equally unusual speech, $F(1, 56) = 1.33$, $p = .25$, $\eta_p^2 = .02$, but in Experiment 3b, the concrete politician was seen as using more unusual speech than the abstract politician ($M = 3.61$, $SD = 0.76$), $t(28) = 2.80$, $p = .009$.

Across Experiments 1–3b, then, respondents who used more abstract language were perceived to be more powerful than respondents who used more concrete language, regardless of the content being discussed. Abstract respondents were not perceived as more competent. Abstract respondents were sometimes seen as warmer or more judgmental, but these effects varied depending on the valence of the content and the manner of presentation (i.e., joint vs. single evaluation).

Experiment 4: Linguistic Categorization Model and Leadership Position Judgments

Experiment 4 was conducted to accomplish two things. First, we wanted to use an additional manipulation of abstraction: Semin and Fiedler's (1988) linguistic categorization model (LCM). This model, which has been used widely to code communications for degree of abstraction, distinguishes between four linguistic categories that fall on a continuum of abstractness, ranging from purely describing a particular observable behavior (most concrete), to providing an interpretation of that behavior, to describing states or characteristics of the actors themselves (most abstract). Thus, though the LCM specifically focuses on action-oriented words, the model's definition of linguistic abstraction as moving beyond concrete, specific details to broader interpretations is similar to our own. According to the LCM, descriptive action verbs (e.g., *walk*, *yell*) are the most concrete category, followed by interpretive action verbs (e.g., *help*, *tease*), then state verbs (e.g., *admire*, *hate*), with adjectives (e.g., *honest*, *aggressive*) being the most abstract. In Experiment 4, participants read two persuasive messages, ostensibly written by two different respondents from a previous study, that used either relatively abstract linguistic categories (adjectives and state verbs) or relatively concrete linguistic categories (descriptive action verbs and interpretive action verbs). Participants then rated each respondent's power, warmth, competence, and judgmentalness. Our particular manipulation also attempted to control as tightly as possible for the content that was communicated; that is, the abstract and concrete condition were constructed to essentially communicate the same thing, but were phrased differently. In addition, we wanted to explore a more behavioral consequence of power judgments. To this end, we had participants evaluate and select between the more abstract and more concrete communicator for low- and high-power roles for a future study.

Method

Participants. Fifty-two participants participated via Amazon's mTurk online survey site for $0.55. One participant was excluded for not answering the IMC, for a total sample size of 51 (23 women; $M_{age} = 32.02$ years, $SD = 11.80$).

Materials and procedure. As in Experiments 1–2, participants were asked to form impressions of purported previous respondents on the basis of their responses in an earlier study. Specifically, participants were told that in a previous study, respondents saw a description of a new product called "Mojo Juice" and were asked to write several statements about this new product (materials adapted from Joshi & Wakslak, 2014); participants were asked to form an impression of the earlier respondents on the basis of the statements the respondents provided. Participants were asked to consider the statements made by two prior respondents, who were presented in random order. Both respondents made four positive statements about Mojo Juice. Statements made by the concrete respondent (identified as "Participant B") were constructed so that they used more descriptive and interpretive action verbs (relatively concrete linguistic categories according to the LCM). Statements made by the abstract respondent (identified as "Participant D") were constructed so that they used more adjectives and state verbs (relatively abstract linguistic categories according to the LCM). Concrete and abstract statements were constructed to communicate the same content, with linguistic abstractness being the only distinguishing factor between the two. For example, one concrete statement was "Mojo Juice is made only from fruit juice and contains no preservatives," whereas the comparable abstract statement was "Mojo Juice is 100% juice and preservative-free." The statements were pilot tested such that they did not differ in their persuasiveness ($M_{concrete} = 5.00$, $SD = 0.83$; $M_{abstract} = 4.98$, $SD = 0.85$; $F < 1$). All statements are listed in the supplemental material. After reading each previous respondent's statements, participants rated the respondent on measures of

power (*dominant*, *powerful*, *in control*, *important*[6]; $\alpha = .84$), warmth (*friendly*, *trustworthy*, *likable*; $\alpha = .93$), competence (*knowledgeable*, *competent*, *intelligent*; $\alpha = .92$), and judgmentalness (*judgmental*, *critical*, *opinionated*; $\alpha = .81$) using 7-point Likert-type scales ($1 = not \ at \ all$, $7 = very \ much$).

After rating their impressions of Participants B and D, participants were told that in a follow-up study with the same group of original respondents, we would be assigning respondents to be "managers" or "workers" for the duration of the study. The manager would be the leader of the team they were working with, and the worker would need to take direction from the manager. Participants were asked to evaluate Participants B and D's relative appropriateness for these two roles ("Between the two participants whose responses you read, which participant do you think is a better fit for a 'manager' role?" $1 = Participant \ B$, $7 = Participant \ D$; "Between the two participants whose responses you read, which participant do you think is a better fit for a 'worker' role?" $1 = Participant \ B$, $7 = Participant \ D$). They were also asked which of the two prior respondents, B or D, they would select if they had to choose one of them to fill the "CEO" role in the next study.

Results and Discussion

As predicted, participants judged the abstract respondent ($M = 4.38$, $SD = 1.00$) as more powerful than the concrete respondent ($M = 3.99$, $SD = 0.99$), $F(1, 50) = 7.24$, $p = .01$, $\eta_p^2 = .13$. In addition, unlike the previous experiments, they judged the abstract respondent ($M = 5.27$, $SD = 1.02$) as more competent than the concrete respondent ($M = 4.90$, $SD = 1.21$), $F(1, 50) = 7.45$, $p = .009$, $\eta_p^2 = .13$. There were no differences between the language conditions in perceived warmth ($M_{concrete} = 4.96$, $SD_{concrete} = 1.09$ vs. $M_{abstract} = 4.95$, $SD_{abstract} = 1.04$; $F < 1$) or judgmentalness ($M_{concrete} = 3.52$, $SD_{concrete} = 1.21$ vs. $M_{abstract} = 3.74$, $SD_{abstract} = 1.25$), $F(1, 50) = 2.22$, $p = .14$, $\eta_p^2 = .04$.

Participants' evaluations of the respondents' fit for the manager and worker roles in the upcoming study were also in line with expectations. As the two respondents were rated in comparison to each other on a single bipolar scale for these two questions, a response at the midpoint signified neutrality, whereas a response above the midpoint (i.e., greater than 4) signified the greater appropriateness of the abstract respondent, and a response below the midpoint (i.e., less than 4) signified the greater appropriateness of the concrete respondent. One-sample t tests revealed that participants judged the abstract respondent as a better fit for the manager role ($M = 5.43$, $SD = 1.76$), $t(50) = 5.81$, $p < .001$, and the concrete respondent as a better fit for the worker role ($M = 2.84$, $SD = 1.85$), $t(50) = 4.47$, $p < .001$. Furthermore, selections for the "CEO" role in the upcoming study showed the same pattern, with 82.35% of participants selecting the abstract respondent for this leadership role, $\chi^2(1, N = 51) = 21.35$, $p < .001$.

Experiment 5: Mediation via Abstract Thinking and Judgmentalness Assessments

Experiments 1–4 revealed broad support across a variety of content and presentation styles for the use of linguistic abstraction as a power cue. The goal of Experiment 5 was to explore potential mediators of this effect. Our primary theoretical basis for the effect of linguistic abstraction on perceptions of power is the association

between power and abstraction (Magee & Smith, 2013; Smith & Trope, 2006) and the corollary expectation for individuals with power to be broad and abstract thinkers (see our pilot study), something that would leak out at a behavioral level in communication. In addition, many types of abstract language are seen as more judgmental than concrete language (e.g., Douglas & Sutton, 2006, 2010; Semin & Fiedler, 1988), which may be an additional reason for people to infer power from abstract communication. To begin to explore this latter issue and its degree of relevance for the current findings, we included measures of judgmentalness in several earlier studies. Across these experiments, we found mixed support for the assumption that abstract communicators would be seen as more judgmental (i.e., statistically significant effects in Experiments 2 and 3a, but only nonsignificant directional support in Experiments 3b and 4). We also returned to these data sets and tested whether the single-item measure of judgmentalness used in Experiments 2–4 mediated the effects of linguistic abstraction on ratings of power (following the guidelines of Judd, Kenny, & McClelland, 2001, for conducting within-subjects mediation analyses). Judgmentalness only emerged as a significant mediator in Experiments 2 and 4 (details of these mediation analyses are available from the authors). However, a single item is an unreliable, low-powered way to measure a construct, so we view these analyses as preliminary at best.

Thus, in Experiment 5, we explicitly and robustly tested two potential mediators of the relationship between language and perceptions of power: perceptions of the respondent as an abstract thinker and perceptions of the respondent as judgmental. As in Experiment 2, participants read descriptions, ostensibly written by different respondents, of a series of behaviors. These written responses described either the concrete means through which the behavior might be accomplished or the abstract ends achieved by completing the behavior. Unlike the previous experiments, language was manipulated between participants, so each participant saw either only concrete descriptions or only abstract descriptions. Some of the behaviors were positive and others were negative to test whether the effect of language on power judgments, as well as the effects of the two mediators, would be consistent across valence. After reading a behavior–description pair, participants responded to several items measuring perception of the respondent's power, how much the respondent was an abstract thinker, and how judgmental the respondent was. Given that we used materials for which we already found significant effects of judgmentalness in Experiment 2, we expected judgmentalness to be a significant mediator of the relationship between language and perceptions of power. Thus, because we test a simultaneous multiple mediator model, this experiment serves as a conservative test of the mediating role of perceptions of the respondent as an abstract thinker.

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[6] The power and competence scales used in this study each contained an additional adjective relative to Experiments 1–3b (*important* and *intelligent*, respectively). Including only the items used in previous studies for these two scales led to similar significant effects of language on perceptions of power ($M_{concrete} = 3.92$, $SD_{concrete} = 1.03$ vs. $M_{abstract} = 4.32$, $SD_{abstract} = 1.10$), $F(1, 50) = 5.62$, $p = .02$, $\eta_p^2 = .10$, and competence ($M_{concrete} = 4.97$, $SD_{concrete} = 1.18$ vs. $M_{abstract} = 5.27$, $SD_{abstract} = 1.11$), $F(1, 50) = 4.80$, $p = .03$, $\eta_p^2 = .09$.

Method

Participants. One hundred seventy-one participants participated via mTurk for $0.50. We excluded three nonnative English speakers and six participants who failed the IMC, for a total sample size of 162 (54 women; M_{age} = 29.64 years, SD_{age} = 9.82).

Materials and procedure. Participants were told they would read descriptions of behaviors written by other respondents and were to form impressions of these previous respondents and rate them on various traits. They then saw a behavior (e.g., insulting someone) followed by a concrete ("calling someone a mean name") or abstract ("being spiteful") description of it on each of the following screens. Language was manipulated between participants, so each participant saw either only concrete descriptions or only abstract descriptions. Participants saw six different behaviors: three negative behaviors and three positive behaviors (Positive Stimuli 1–3 and Negative Stimuli 1, 3, and 4 from Experiment 2; see the supplemental material for actual stimuli). After reading each behavior–description pair, participants rated the respondent on measures of power (*dominant*, *powerful*, *in control*; αs = .79–.84), as in Experiments 1–3b. They also rated the participant on seven items designed to assess possible mediators: three items about the respondents' abstract thinking style ("a big picture person," "someone who likes to understand the meaning behind things," "someone who gets at the gist of things"; α = .75–.84) and four items about judgmentalness ("opinionated," "critical," "arrogant," "judgmental"; αs = .79–.91). All responses were provided on 7-point Likert-type scales (1 = *not at all*, 7 = *very much*).

Results and Discussion

We conducted a series of 2 (valence: negative vs. positive) × 2 (language: concrete vs. abstract) mixed model ANOVAs on ratings of power, abstract thinking, and judgmentalness, with the first factor manipulated within subjects. Means and standard deviations are reported in Table 4. As expected, participants saw respondents who wrote abstract descriptions as more powerful (M = 3.99, SD = 0.66) than respondents who wrote concrete descriptions (M = 3.16, SD = 0.95), F(1, 160) = 42.14, p < .001, η_p^2 = .21. There was no effect of valence, nor any interaction between

valence and abstractness (Fs < 1). Respondents who used abstract descriptions were judged as more powerful than those who used concrete descriptions, regardless of whether the respondent described a positive or a negative behavior.

Participants perceived respondents who wrote abstract descriptions of behaviors (M = 4.38, SD = 0.77) as more abstract thinkers than respondents who wrote concrete descriptions (M = 3.64, SD = 0.96), F(1, 160) = 29.75, p < .001, η_p^2 = .16. Respondents describing positive behaviors (M = 4.15, SD = 1.13) were also seen as more abstract thinkers than respondents describing negative behaviors (M = 3.86, SD = 1.00), F(1, 160) = 17.07, p < .001, η_p^2 = .10. These effects were moderated by a significant interaction, F(1, 160) = 39.07, p < .001, η_p^2 = .20. Respondents who used abstract descriptions were judged as more abstract thinkers than those who used concrete descriptions, regardless of whether the respondent described a positive, F(1, 160) = 61.31, p < .001, η_p^2 = .28, or a negative behavior, F(1, 160) = 3.91, p < .05, η_p^2 = .02, but the effect of language was significantly stronger for positive behaviors.

Participants also perceived respondents who wrote abstract descriptions of behaviors (M = 4.25, SD = 0.70) as more judgmental than respondents who wrote concrete descriptions (M = 3.19, SD = 0.87), F(1, 160) = 72.43, p < .001, η_p^2 = .31. Respondents describing negative behaviors (M = 4.19, SD = 1.18) were also seen as more judgmental than respondents describing positive behaviors (M = 3.25, SD = 0.96), F(1, 160) = 200.05, p < .001, η_p^2 = .56. These effects were moderated by a significant interaction, F(1, 160) = 63.53, p < .001, η_p^2 = .28. Respondents who used abstract descriptions were judged as more judgmental than those who used concrete descriptions, regardless of whether the respondent described a positive, F(1, 160) = 12.93, p < .001, η_p^2 = .07, or a negative behavior, F(1, 160) = 135.79, p < .001, η_p^2 = .46, but the effect of language was significantly stronger for negative behaviors.

Mediation. We conducted bootstrapping analyses (Preacher & Hayes, 2008) to test the degree to which the effect of language on power ratings of the respondent was simultaneously mediated by ratings of the respondent's abstract thinking and judgmentalness. Because language had a significant effect on ratings of the respondent's power, abstract thinking, and judgmentalness for both positive and negative behaviors, we collapsed across behavior valence for these analyses.[7] Unstandardized coefficients for each pathway are shown in Figure 1. On the basis of a resampling size of 5,000, the bootstrap results indicate that the total effect of language condition on power ratings (b = .83, SE = .13, p < .001) decreases to nonsignificance when judgmentalness and abstract thinking are included as mediators (b = −0.10, SE = .10, p = .32). The 95% bias-corrected confidence intervals for both the indirect effect through abstract thinking (.12–.37) and the indirect effect through judgmentalness (.51–.93) did not include zero, indicating that both abstract thinking and judgmentalness ratings

Table 4

Means (and Standard Deviations) of Respondent Ratings as a Function of Language Abstraction and Behavior Valence (Experiment 5)

Rating	Language	Valence	
		Negative	Positive
Power			
	Concrete	3.21 (1.02)	3.11 (0.97)
	Abstract	3.99 (0.81)	4.00 (0.79)
Abstract thinking			
	Concrete	3.71 (1.08)	3.56 (1.02)
	Abstract	4.02 (0.90)	4.74 (0.90)
Judgmentalness			
	Concrete	3.40 (0.89)	2.98 (0.98)
	Abstract	4.99 (0.85)	3.51 (0.87)

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[7] When the analyses are run separately for negative and positive behaviors, there are significant indirect effects through both abstract thinking and judgmentalness for both kinds of behaviors. With negative behaviors, the indirect effect through judgmentalness is significantly stronger than the indirect effect through abstract thinking; with positive behaviors, these two paths are of roughly equal strength. More details about these analyses are available from the authors.
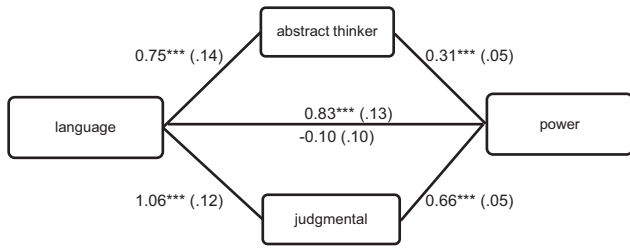
Figure 1. Multiple mediation model for language and ratings of abstract thinking, judgmentalness, and power. Unstandardized coefficients are reported, with standard errors in parentheses. Statistics for total effect of language on power ratings are above path, and statistics for direct effect (i.e., controlling for abstract thinking and judgmentalness ratings) are below path. *** $p < .001$.

were significant mediators of the relationship between language and ratings of power. Given that ratings of abstract thinking and judgmentalness were significantly correlated, $r(160) = .45$, $p < .001$, it is notable that both variables were significant mediators when included simultaneously in the analysis.

Experiment 6: Converging Evidence for Abstract Thinking and Willingness to Make Judgments as Mediators

The goal of Experiment 6 was to test mediation in a more refined fashion. In Experiment 5, the terms we used to measure participants' perceptions of judgmentalness (e.g., "opinionated," "critical") were negative in valence overall. This kind of judgmentalness may be specifically relevant when a speaker is describing people, especially when these descriptions are negative. Indeed, judgmentalness was a stronger mediator of our effects in Experiment 5 when respondents were describing negative behaviors. However, we are interested in judgmentalness more broadly, as an ability and willingness to make judgments and draw conclusions (cf. Goodwin, Gubin, Fiske, & Yzerbyt, 2000). In Experiment 6, we therefore again tested our multiple mediator model, exploring perceptions of the respondent as an abstract thinker and perceptions of the respondent as someone willing to make judgments as mediators of the linguistic abstraction–power judgment link. This time, however, we modified our judgmentalness measure so it neutrally assessed speakers' perceived tendencies to make judgments and draw conclusions (i.e., their "willingness to make judgments" rather than negatively tinged "judgmentalness"). We also varied other aspects of the design from that of Experiment 5, using the stimuli from Experiment 4 (instead of those used in Experiments 2 and 5) and a within-subjects design.

More specifically, as in Experiment 4, participants read two persuasive messages, ostensibly written by two different respondents from a previous study, that used either relatively abstract linguistic categories (adjectives and state verbs) or relatively concrete linguistic categories (descriptive action verbs and interpretive action verbs). After reading a message, participants responded to several items measuring perception of the respondent's power, how much the respondent was an abstract thinker, and how willing the respondent was to make judgments. In contrast to the highly

valenced materials involving individuals' behavior used in Experiment 5, the present materials were designed to be neutral to mildly positive and were about products rather than people, allowing us to explore the applicability of our multiple mediator model to a new context. In Experiment 4, in which the same materials were used, we did not find significant effects on a single-item measure of judgmentalness, but we expected to find effects on the more nuanced, neutral measure of willingness to make judgments in the present experiment.

Method

Participants. One hundred twenty-nine participants participated via mTurk for $0.50. We excluded one nonnative English speaker and four participants who failed the IMC, for a total sample size of 124 (47 women; $M_{age} = 31.45$ years, $SD_{age} = 9.61$).

Materials and procedure. General instructions and stimuli were as in Experiment 4, with participants seeing statements written by two different respondents ("Participant B" and "Participant D") about a new product called "Mojo Juice." One set of statements was relatively concrete, and the other set was relatively abstract, with linguistic abstractness manipulated according to the LCM. After reading each previous respondent's statements, participants rated the respondent on measures of power (*dominant*, *powerful*, *in control*; $\alpha = .75$), as in the previous experiments. They also rated the participant on six items designed to assess possible mediators: three items about the respondents' abstract thinking style ("a big picture person," "someone who likes to understand the meaning behind things," "someone who gets at the gist of things"; $\alpha = .73$) and three items about willingness to make judgments ("someone who is willing to make judgments," "someone who is willing to draw conclusions," "someone who is willing to make evaluations"; $\alpha = .84$). All responses were provided on 7-point Likert-type scales (1 = *not at all*, 7 = *very much*).

Results and Discussion

As predicted, participants judged the abstract respondent ($M = 4.40$, $SD = 0.90$) as more powerful than the concrete respondent ($M = 3.99$, $SD = 0.84$), $F(1, 123) = 19.91$, $p < .001$, $\eta_p^2 = .14$. Participants also perceived the abstract respondent ($M = 5.06$, $SD = 0.83$) as a more abstract thinker than the concrete respondent ($M = 4.83$, $SD = 0.97$), $F(1, 123) = 7.19$, $p = .008$, $\eta_p^2 = .06$. Finally, participants also perceived the abstract respondent ($M = 5.47$, $SD = 0.95$) as more willing to make judgments than the concrete respondent ($M = 5.13$, $SD = 0.99$), $F(1, 123) = 13.72$, $p < .001$, $\eta_p^2 = .10$.

Mediation. Because the independent variable in this experiment was manipulated within subjects, we followed the guidelines of Judd et al. (2001) for conducting within-subjects mediation analyses. In the previous paragraph, we already demonstrated that the independent variable (linguistic abstractness) had a significant impact on both mediators and the outcome variable (power ratings). We next calculated separate difference scores between the concrete and abstract means for ratings of the respondent's power, abstract thinking, and willingness to make judgments. Following Judd et al.'s (2001) recommendation, we also calculated sum scores for abstract thinking and willingness to make judgments by

summing the concrete and abstract means, then centered these scores. Finally, we regressed the power difference score simultaneously on the difference scores for abstract thinking and willingness to make judgments, along with the centered sum scores for abstract thinking and willingness to make judgments. The difference scores for both abstract thinking ($b = 0.27$, $SE = .09$, $p = .002$) and willingness to make judgments ($b = 0.39$, $SE = .08$, $p < .001$) were significant predictors. However, the intercept of the model was still significant ($b = 0.20$, $SE = .08$, $p = .01$), indicating that there remained differences in power ratings unaccounted for by ratings of abstract thinking and willingness to make judgments. Thus, we found evidence for partial within-subjects mediation by both abstract thinking and willingness to make judgments ratings of the relationship between language and ratings of power.

General Discussion

Across multiple manipulations and measures, we find converging evidence that a more abstract communication style serves as a power signal. Use of abstract language that captured the gist or meaning of an event led a speaker to be perceived as more powerful, relative to concrete language that focused on specific details and actions, regardless of whether the speaker was discussing a person, a societal issue, or a product; describing something negative or positive; or saying a few words or several sentences. Although in some of the individual experiments there were independent effects of abstract language on judgments of warmth and competence, these were inconsistent and often moderated by valence. A persistent, unmoderated effect of abstract language was found only for judgments of power.[8]

Theoretical Implications

From a conceptual perspective, the current findings contribute to our understanding of social judgment more broadly and to the link between abstraction and power more specifically. Our results are in line with, and therefore help to further bolster, a behavioral signal approach, which has suggested that behavioral patterns associated with particular positions or personality characteristics may serve as a cue to observers that an individual possesses that position or personality characteristic (e.g., Hall, Coates, & Smith LeBeau, 2005; Magee, 2009; Puts et al., 2006, 2007). Moreover, our findings point out that these associations can be relatively fluid; that is, a person may associate not only single behaviors (e.g., speaking with a lower pitched voice) but also styles of thinking or acting that imply a broad set of behaviors, with a given characteristic (e.g., power), and then make associated judgments regarding that characteristic based on the presence of one of those behaviors. In the current context, specifically, we expected that people associate power with abstract thinking and would therefore be sensitive to indicators of abstract thinking when making judgments about power. We focused on one critical area in which abstract thinking is likely to be especially evident to an observer—abstraction in linguistic communication—and found that this impacted power judgments. We expect that other indicators of abstract thinking (e.g., increased focus on goals and other defining aspects; broad, stereotypical thinking) would likewise have a similar impact.

Support for the centrality of abstraction per se to the current results emerges from several aspects of the findings we report. First, we operationalized abstract language in a variety of ways across the current studies, applying different existing frameworks for how language can be more concrete or abstract (e.g., Semin & Fielder's, 1988, LCM; Vallacher & Wegner's, 1987, action identification model) and supplementing these with additional manipulations informed by an understanding of abstraction as a process that captures the gist of a situation (Trope & Liberman, 2010). Across these different manipulations, results provided converging evidence for a consistent, robust effect of abstract (vs. concrete) language on judgments of power. In addition, in Experiments 5 and 6, we measured perceptions of the speaker as an abstract thinker and found that this plays a mediational role in the link between abstract language and judgments of the speaker's power. We also found in those experiments that perceptions of the speaker's judgmentalness played a mediational role in this link, but results of some of our other experiments (i.e., Experiments 3 and 4) suggest that the exact role of judgmentalness may be dependent on the particular stimuli and context involved, as well as the type of judgmentalness studied (issues we discuss in more detail in a subsequent section of the General Discussion). Although future research may continue to unpack the role of perceived judgmentalness in perceptions of power, the current findings on the whole lend further support to a social distance approach to power (Magee & Smith, 2013), which has conceptualized power as a form of social distance and argued for a causal impact of power on abstract thinking. The current findings suggest that, indeed, people are sensitive to this association and therefore will make power inferences from indicators of abstract thinking.

The current findings are also conceptually relevant to prior research that has begun to explore inferences perceivers make about speakers on the basis of their linguistic abstraction. Much of this work has been inspired by Semin and Fiedler's (1988) research on the LCM and has therefore particularly focused on differences in using adjectives versus verbs to describe others' actions. Douglas and Sutton (2006), for instance, found that observers judged a describer who used abstract (rather than concrete) positive descriptions as more likely to be a friend of the person (and less likely to be an enemy), more likely to hold a positive attitude toward the person, and more likely to be attempting to create a positive impression of the person. The converse was found for describers using abstract negative descriptions. Similarly, Reitsma-van Rooijen, Semin, and van Leeuwen (2007) found that this dynamic influenced feelings of interpersonal connection to a describer who characterized one's own behavior: Participants felt more connected to a describer who used abstract (vs. concrete) language to depict the participant's positive behavior and less

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[8] To further test the unique effect of linguistic abstraction on power ratings, for each experiment in which power, competence, and warmth ratings were all collected, we tested whether the effects on power ratings held when competence and warmth ratings were used as covariates. Specifically, we calculated difference scores (e.g., ratings of abstract politicians minus ratings of concrete politicians) separately for ratings of warmth and competence and included these new variables as covariates with the original analysis of ratings of power. The main effect of level of abstraction on ratings of power remained significant or marginally significant in three of the four experiments for which we were able to do these analyses. Details of these analyses are available from the authors.

connected to a describer who used abstract (vs. concrete) language to depict the participant's negative behavior. Douglas and Sutton (2010) further expanded on this to suggest that linguistic abstraction influences overall judgments of a describer's likability: As we replicated in the current studies, individuals find abstract describers of positive behaviors more likable and abstract describers of negative behaviors less likable. Supporting and expanding on this prior research, the current findings suggest that an even larger set of judgments may be influenced by communicators' linguistic abstraction. Moreover, our findings demonstrate that (a) abstraction may lead to broad main effects on judgments of communicators' personality characteristic that are not dependent on the communication's valence (as in Douglas & Sutton, 2010) and (b) effects of abstraction on social inference are not limited to the types of contexts focused on by the LCM (use of verbs vs. adjectives) but rather extend more broadly to a variety of ways communication can be rendered more versus less abstract.

The Role of Different Mediators in the Language/ Perceptions-of-Power Effect

In Experiment 5, we found that perceptions of the respondent as judgmental and as an abstract thinker were both significant mediators of the relationship between abstract language and perceptions of the respondent as powerful. Our measure of judgmentalness in that study was a set of items connoting the negative-tinged aspect of conferring judgment on another person—judgmental, arrogant, and the like. Because the stimuli used in Experiment 5 consisted of abstract and concrete descriptions of behaviors performed by another person, and a valenced item becomes more extremely valenced when described abstractly (Trope & Liberman, 2010), abstract respondents were making more extreme positive and negative statements than concrete respondents, and these extremely valenced statements by abstract respondents implied judgments about other people. Thus, the type of negatively tinged judgmentalness items we used to measure this construct was especially appropriate to this context. However, when the single item "judgmentalness" was included in earlier studies (Studies 2, 3a, 3b, and 4), it only sometimes varied across linguistic abstraction condition.

As we noted in our description of Experiment 6, however, judgmentalness does not necessarily need to be a negatively tinged characteristic. That is, the characteristic of being willing to make judgments and reach conclusions can be more neutral in nature, and this type of willingness to make judgments may be a broader potential mediator for effects of linguistic abstraction on power judgments. To explore this, we measured willingness to make judgments in Experiment 6 using more neutral terms, within the context of experimental stimuli that (a) described a product, rather than a person, and (b) were constructed to communicate highly similar content across linguistic abstraction condition. Results of Experiment 6 support mediation via such willingness to make judgments (as well as mediation via big-picture thinking), suggesting that judgmentalness thus broadly construed is an important driver of the effect of linguistic abstraction on power judgments.

Of course, big-picture thinking and willingness to make judgments are undoubtedly not exclusive mediators of this effect. For example, in real-world contexts, an additional potential mediator is that speaking abstractly makes people feel more powerful (cf.

Smith et al., 2008), thereby altering aspects of their nonverbal communication, which in turn affects the degree to which others see them as powerful. Although the current studies were not designed to explore this possibility, it would be interesting to do so in future research. More generally, this points to the possibility that other processes contribute to the current effects (indeed, results of Experiment 6 supported partial rather than complete mediation), and the important caveat that the exact role of potential mediators across different linguistic content and different contexts requires further clarification.

Practical Implications and Future Directions

Speaking in an abstract fashion is a relatively simple and, to some extent, a controllable action (e.g., Douglas & Sutton, 2003; Douglas, Sutton, & Wilkin, 2008), particularly when communication is written or a speech is prepared in full beforehand, as in many political contexts; that this serves as a meaningful power signal has intriguing implications for political and business contexts in which managing perceptions of one's power is especially important. Rather than focusing just on speaking to the right kind of people, or covering the right topics, we suggest it is important to think about the words one uses. Speakers may sometimes choose to discuss issues in very concrete terms, perhaps to show off their knowledge of a particular domain. Such concreteness may or may not be taken as a sign of the speakers' competence, given the mixed results we found across stimuli in our experiments, but it is highly likely to lead them to be seen as less powerful and thus as having less leadership potential. Indeed, our findings are consistent with the negative connotations in the political domain, for those who aspire to powerful positions, of being labeled a "policy wonk."

The use of abstract language may be a particularly effective power signal because of its subtlety. Though the achievement of power may be associated with a variety of positive outcomes (e.g., Anderson & Berdahl, 2002; Galinsky et al., 2003; Marmot et al., 1991; Sherman et al., 2012), the overt pursuit of power is often not viewed positively (e.g., Hays, 2013). For example, women may be particularly concerned about reporting an interest in powerful roles because power is more socially desirable for men than for women (e.g., Rudman & Glick, 1999). Because perceivers may not notice small changes in linguistic abstraction made by a communicator, and are even less likely to label such changes as "power plays," linguistic abstraction may be a relatively safe way to pursue power covertly.

Intriguingly, one primary aspect of abstraction, in language and other forms, is that it captures features that tend to be invariant over time (Trope & Liberman, 2010). Thus, invariance in communication—for example, keeping a strong and consistent stance on matters even when they call for frequent revision—may, due to its relationship to abstraction, serve as a power signal. A particularly telling example is the 2004 U.S. presidential election, in which John Kerry was branded as a "flip-flopper" in an ad supporting George W. Bush. The overriding sentiment was that a lack of consistency was a negative trait for a leader. This dovetails well with our current findings that concrete communication, which tends to be more variant and context specific, acts as a low-power signal.

However, an important caveat to the above conclusions is that in all cases, we measured in the current studies immediate reactions to short snippets of language. Although such short snippets of language are sometimes all that is communicated (as when, for example, a single quotation ends up in a news story or a public relations bulletin), most communications are significantly longer and more varied. It would not be surprising if the effects we explore here did not directly transfer to lengthier speech. For example, powerful people who only speak in abstract terms and are never able to communicate concrete, detailed information may ultimately come to be seen as surface-oriented or lacking depth. Future research may therefore explore the longevity of the current effects, both in terms of continued impact and in terms of whether abstraction will have a less positive impact on power judgments if it is never supplemented with concrete information. This point is especially relevant given that the current experiments cumulatively suggest that use of abstract language consistently increases perceptions of a target's power, but not judgments of his or her competence. People seen as powerful but not especially competent may risk having their power be seen as illegitimate by others, which may lead to downstream negative consequences (e.g., Fast & Chen, 2009). Supplementing abstract statements with concrete detail to convey knowledge of the issue at hand, or otherwise ensuring that abstract statements are accompanied by signals of competence (e.g., mentioning one's extensive prior experience with a situation), may therefore be a useful strategy for being perceived as a legitimate power-holder.

It may also be interesting to explore order effects when communication contains both abstract and concrete communication. It seems plausible that power judgments will be impacted by whether someone begins with abstract communication and becomes more concrete, as opposed to starting with concrete communication and becoming more abstract. The former approach may be more effective by establishing power first, with the concrete communication then suggesting that the abstract communicator is also knowledgeable.

Relatedly, it is important to consider situations in which abstract language would not be seen as a sign of power. In the current experiments, the speakers were either supposedly supplied with all the information they needed to write about (Experiments 1–2, 4–6) or our participants could easily assume that the speakers had sufficient knowledge of the topic at hand (Experiments 3a–3b). Thus, the use of abstract language reflected the ability to extract a deeper point or the bigger picture from all the relevant information. In situations in which it is not clear the speaker has all the relevant information, in contrast, it is plausible that abstract language will be seen as too general or vague. For example, imagine an audience believes that a speaker does not know much about possible budget cuts at a company. If the speaker uses more abstract language when describing the cuts, such language may be seen as too vague and indirect and thus a sign of weakness, as compared with using more concrete language. However, abstract language may still be seen as fitting what one would expect from someone in a high-power position within that context, and it is therefore not clear what impact abstract language would have on power judgments in that situation. Future research should explore this and other potential boundary conditions related to the larger context within which the communication is occurring (e.g., whether it is an affectively neutral time period or the communication happens during a crisis situation).

Conclusion

Although we focus on immediate reactions to short communications, we believe that such immediate impressions can be quite impactful, and short exposures are often people's only exposure to power-holders and -seekers. Overall, our research suggests that in such situations, those wanting to seem powerful should resist the temptation to demonstrate their depth of knowledge by providing elaborate, concrete detail when communicating, and instead use more abstract language that emphasizes a topic's gist and goes beyond concrete depiction. Because any type of information can be communicated at different levels of abstraction, this suggestion provides practical advice that may be implemented broadly. Those interested in being perceived as more powerful may therefore be well served to talk in terms of the forest rather than the individual trees.

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