



The Nonconscious Nature of Power: Cues and Consequences

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Abstract

Power – asymmetric control over valued resources – is a fundamental dimension of social relations. Classical conceptualizations of power emphasize its conscious nature. In this review, we reveal how power often operates nonconsciously and identify the different methods and paradigms used to activate or create a psychological sense of power outside of conscious awareness. First, we establish that cues of power are often attended to nonconsciously, which explains why people can be so accurate at determining their own and others' level of power yet so inaccurate at identifying the specific cues diagnostic of possessing power. Second, we discuss how people are often unaware of how the possession of power fundamentally alters basic psychological and behavioral tendencies and describe the range of methodologies – roles, cues, episodic recall, conceptual priming – used to identify the nonconscious effects of power. Power produces two broad types of effects: It increases abstraction in thought and approach in behavior, both of which make individuals more focused on their own goals and internal states. Like other psychological constructs and processes, even ones that are inherently social and relational, power's cues and consequences do not have to be conscious for its profound influence on basic psychological and interpersonal processes to emerge. We discuss the implications of the nonconscious nature of power for limiting the corrupting, dark side often revealed among the powerful.

The phrase 'nonconscious power' may seem illogical. After all, power is inherently a social construct: People's level of power – their asymmetric control over valued resources – is defined via their relations with others. Power seems to follow from clearly assigned and explicitly defined roles, such as boss and employee, coach and player, parent and child. How can someone be less than fully conscious of the control he or she has over others?

We argue that such a narrow conceptualization of power ignores how easily cues of power are attended to and how pervasive the consequences of power are. After all, power is a fundamental part of everyday social life and the primary method of organizing social relations (Cartwright, 1959; Fiske, 1992) because it facilitates coordination, reduces conflict, and satisfies the human need for order and stability (Magee & Galinsky, 2008). Every human interaction, not just those sequestered in the workplace or confined to the political domain, is affected by hierarchical differences between individuals.

Power is not always distributed formally or delineated clearly, and its distribution sometimes cannot even be predicted *a priori*. Because people's relative levels of power dictate what behavior is expected and appropriate, not knowing one's place brings social sanctions; as a result, hierarchical uncertainty is socially hazardous. Therefore, people need to be adept at quickly and efficiently detecting even the most subtle cues that indicate their own and other's rank in a social hierarchy. This observation leads to the first point

of this review: Cues of power often operate nonconsciously. Despite the subtle nature of these cues, people are remarkably accurate in their assessments of their own and other people's power (e.g., Anderson, John, Keltner, & Kring, 2001; Anderson, Srivastava, Beer, Spataro, & Chatman, 2006). However, when people explicitly and consciously search for those cues that indicate the distribution of power, they ironically tend to be inaccurate, missing cues that are actually predictive and using illusory cues that are not predictive (Hall, Coats, & LeBeau, 2005).

The second point of this review is that people are often unaware of how the possession of power fundamentally alters their emotions, thinking, and behavior. Not only does power nonconsciously transform basic psychological states, but sometimes people are even unaware that they have been swept up by those subtle cues that provide them with a psychological sense of power. As we detail when discussing the methods used for studying the nonconscious consequences of power, when individuals think of a time in their past when they had power (e.g., Galinsky, Gruenfeld, & Magee, 2003), sit on a professor's lofty perch (e.g., Chen, Lee Chai, & Bargh, 2001), or are even unobtrusively exposed to words relating to power (e.g., Smith & Trope, 2006), they think, feel, and behave similarly to individuals who actually possess power. Cross-study comparisons of nonconscious and conscious power suggest that the two differ quantitatively in the extremity of effects, rather than qualitatively. Thus, like other psychological constructs and processes (Bargh, 1997), power does not have to be conscious for its effects to emerge.

In this review, we first address the question of how power can operate nonconsciously by exploring its cognitive structure and activation. We then turn to how cues connected to power are often nonconsciously recognized, attended to, and processed. We finally turn to evidence that power, once activated, produces a range of nonconscious effects by transforming basic psychological processes. We choose to use the term 'nonconscious,' rather than 'automatic,' because, until now, research has primarily focused on whether participants are *aware* of (a) their elevated or reduced level of power; (b) the influence of this amount of power on their thoughts, feelings, or behavior; or (c) both. The term 'nonconscious' encompasses both types of awareness and is thus our preferred term. In contrast, other dimensions of automaticity (Bargh, 1994; Moors & De Houwer, 2006), such as whether the effects of power are efficient and controllable, have yet to be studied. A particularly interesting and important question is whether the effects of power can be conceptualized as intentional, even if they occur nonconsciously. As we will discuss later, power leads to more goal-directed thinking and behavior (e.g., Galinsky et al., 2003; Gruenfeld, Inesi, Magee, & Galinsky, 2008; Guinote, 2007b; Smith & Trope, 2006). In this sense, the effects of possessing power are inherently intentional because the behavior and overt expressions of the powerful are often driven by currently held goals (e.g., Chen et al., 2001).

We feel that conceptualizing power as being activated and operating nonconsciously provides important insights into the nature of power and of hierarchy. Although the idea that mental representations, even of abstract social concepts such as power and justice, can be activated and influence thoughts, feelings, and behavior is not new (Bargh & Williams, 2006), thinking of power as a mental representation allows us to fully appreciate the depth and breadth of its influence. Classical perspectives, because they focus on consciously experienced and wielded power, only consider power's effects on interpersonal and intergroup relations. Our perspective implies that power's effects are more far-reaching, extending to power-irrelevant situations and basic, low-level cognitive, affective, and behavioral processes. Treating power as having nonconscious causes and consequences also allows us to understand when power differences are most predictive of behavior and interpersonal relations. Although power can be linked to clear, concrete,

objective differences in resources and constraints, it is the subtle, often nonconscious differences in subjective power that truly influence people (Haidt & Rodin, 1999; Skinner, 1996). To understand and predict people's behavior, it is better to look at the subtle cues in their environment rather than, say, their job title alone.

Additionally, the literature on the corrupting effects of power often portrays powerful people as consciously choosing and intending their negative behaviors (see Lee Chai & Bargh, 2001, for a recent review). If such behavior often occurs without awareness, interventions to change the malfeasant behavior of the powerful cannot rely on conscious processes either. Much as the ideas of nonconscious stereotyping and prejudice transformed our understanding of intergroup relations, removing consciousness as a necessary element of power implies a new perspective on understanding power's causes and consequences.

Understanding How Power Can Operate Nonconsciously

To understand how power could possibly operate without the aid of consciousness, one must first think of power not only as a product of social relations, but also as a psychological construct mentally represented in most, if not all, people. Like other concepts, such as *tiger* or *run*, it is linked in memory to a host of cognitive, affective, and behavioral tendencies. Indeed, decades of priming research, beginning with Higgins, Rholes, and Jones (1977), have demonstrated that activating a concept, even indirectly, leads associations with that concept to also be activated (Bargh, 1997). In this research, when a concept (e.g., 'rudeness') is activated passively and unobtrusively, such as by exposing people to rudeness-related words in a language test, such activation leads to thoughts, feelings, and behaviors consistent with the construct. Activating rudeness, for example, will lead people to later be more likely to interrupt a conversation (Bargh, Chen, & Burrows, 1996). In these cases, the concept is said to be 'primed' (i.e., ready to influence) and the subsequent effects on thoughts, feelings, and behavior are called 'priming effects.'

For power to produce priming effects, for the subtle activation of power to influence subsequent thought and behavior, presupposes strong mental associations between power and particular thoughts, feelings, and behaviors. We believe that such associations between the cues and consequences of power develop through two mechanisms. First, because a person repeatedly thinks, feels, and behaves in certain ways when having power, this frequent and consistent pairing of power to a particular constellation of thoughts, feelings, and behaviors results in automatic associations forming between subtle cues of power and these consequences (Shiffrin & Schneider, 1977).

Second, because power is a dominant dimension of social relationships (Magee & Galinsky, 2008), actual experiences with power may not be necessary for cues of power to produce psychological and behavioral consequences. Power, both its possession and its absence, is linked to and embedded in a particular set of social norms, ones that are often culturally defined (Zhong, Galinsky, Magee, & Maddux, 2010), much as being in a library is linked to speaking quietly. Even without having held a position of low or high power themselves, people can learn – from observation or as a part of the culture itself – what behavior is appropriate and inappropriate when in these roles. For example, people expect others with high versus low power to have different emotional reactions to negative events: Low-power people should feel sad, and high-power people should feel guilty (Tiedens, 2001; Tiedens, Ellsworth, & Mesquita, 2000). Such links between situational conditions and particular social norms may also operate nonconsciously (Aarts & Dijksterhuis, 2003). Finally, evolution may have prepared humans to interpret – rapidly, effortlessly, and nonconsciously – certain cues, such as height and size, as indicating

power (Fiske, 2004). In fact Zitek, E. M., and Tiedens, L. Z. (2010) (Unpublished manuscript) have demonstrated that hierarchical arrangements are easier to process than other types of social relationships. For example, participants memorized a diagram representing a hierarchy more quickly than a diagram representing equality.

As a result of these strong links, once cues of power are perceived, a host of psychological and behavioral processes commence. That is, when the construct of power is activated, whether via actual experience in a powerful or powerless role or by mere exposure to cues or past experiences related to power or powerlessness, the thoughts, feelings, and behavioral tendencies associated with power will also be activated (Bargh & Alvarez, 2001; Bargh, Raymond, Pryor, & Strack, 1995). Having attended to cues of power in the environment and determined their own and others' place in the hierarchy, individuals will tend to think, feel, and behave consistently with those cues.

This constant pairing of power and particular tendencies also creates a link in the reverse direction, from the thought/feeling/behavior to power. When individuals think or act like those in power, they start to feel powerful themselves (e.g., Carney, D. R., Cuddy, A. J. C., & Yap, A. J. (2010) (Unpublished manuscript); Guillory, L. & Gruenfeld, D. H. (2010) (Unpublished data); Smith, Wigboldus, & Dijksterhuis, 2008), so that these thoughts and behaviors serve as cues that trigger feelings of power. Additionally, observers witnessing such behavior may see and offer these individuals greater levels of power (Anderson & Kilduff, 2009; Magee, 2009).

The idea of power as something that can operate nonconsciously, in terms of both its cues and its consequences, opens up a multitude of possibilities for ways power can affect people. Classically, research has examined people's thoughts, feelings, and behaviors while they interact with, or at least think about, someone over whom they have power or someone who has power over them. After being placed in a high- or low-power role, participants have read or gathered information about subordinates or supervisors (e.g., Copeland, 1994; Goodwin, Gubin, Fiske, & Yzerbyt, 2000), evaluated dominant or subordinate individuals or groups (e.g., Georgesen & Harris, 2000; Sachdev & Bourhis, 1991), or attempted to persuade a dominant or subordinate participant (e.g., Anderson & Berdahl, 2002; Overbeck & Park, 2001).

One of the implications of the nonconscious nature of power is that power, like any other activated or primed construct, can and does have effects in situations that extend beyond the confines of power, even those in which power is not directly relevant. The constellation of power's consequences does not disperse the moment their subordinate or boss leaves the room (or their minds), but can be carried outside of the situation in which power was directly experienced or activated. The experience or mere activation of power and powerlessness can affect such disparate behaviors as self-reports of racism (Chen et al., 2001) and the decision to take a card in blackjack (Galinsky et al., 2003), behaviors far removed from classic power contexts. Power is also such a basic element of everyday life that its influence should logically be far-reaching (Fiske, 2003; Skinner, 1996; Winter, 1973), so it is no surprise that power or powerlessness experienced in one situation easily transfers to another situation.

As mentioned earlier, the mental representation of power should determine both who is considered powerful versus powerless – the cues of power – and how being powerful versus powerless affects people's thoughts, feelings, and behavior – the consequences of power. Because these are all part of the mental representation of power, consciousness is not necessary for powerful cues to be attended to or power-consistent behaviors to be undertaken. We turn first to how cues of power are nonconsciously attended to, processed, and activated.

Nonconscious Cues of Power

There are many advantages to accurately identifying who fits where in the social hierarchy. The amount of power individuals possess determines what behavior is acceptable, whether they may 'be themselves' or must follow social norms and expectations (Copeland, 1994; Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008; Guinote, Judd, & Brauer, 2002). Inaccurate appraisals of one's own power, or the power of one's interaction partners, can lead to social sanctions such as exclusion (Anderson, Ames, & Gosling, 2008) and unnecessary competition, conflict, and aggression, as well as simple misunderstandings of each others' intentions (Kilduff & Anderson, 2010). To maintain smooth interactions, individuals need to know how much power they and others have.

Thus, from a functional and evolutionary standpoint, humans should be relatively accurate in perceiving their own and others' level of power (Keltner, Van Kleef, Chen, & Kraus, 2008). Researchers have taken two main routes to investigate the accuracy of power perceptions. Some researchers have had participants rate the power of a set of individuals, and then compared these ratings to those individuals' actual power (either self-reported or objectively assessed). Other researchers have had individuals rate to what degree various behaviors are indicative of having or lacking power, and then compared these ratings to the actual degree these behaviors are related to differences in power.

Interestingly, these two methods yield different results: People are quite accurate at perceiving how much power a person has (consistent with the evolutionary significance of knowing one's place), but poor at identifying the particular cues that impact this perception. We propose that this dissociation reflects the nonconscious manner in which power is communicated and perceived. Not only is consciousness not required, but in fact it may interfere with the efficient, automatized process of perceiving one's own and other's level of power. In this sense, power joins many other social domains in which our lay theories lead us astray (Nisbett & Wilson, 1977).

Accuracy in perceiving levels of power

When individuals simply have to decide how much power another person has, they are often remarkably accurate, even with minimal information, time, or effort. For example, dominant and submissive facial postures differentially affect brain activity (in the mid-superior temporal sulcus, lingual gyrus, and fusiform gyrus) in as little as 200 ms (Chiao et al., 2008). In a series of studies, Schmid Mast and Hall (2004) asked participants to look at candid photographs of pairs of employees and indicate the status difference within each pair (i.e., Employee A is higher status, Employee B is higher status, they are of equal status). Regardless of whether they saw the entire photograph at once or only one employee at a time, participants were very accurate in assessing status differences (mean r 's = 0.71 and 0.60, respectively). In fact, Schmid Mast and Hall point out that 'in comparison to other domains of interpersonal sensitivity, accuracy of judging status seems high' (p. 157). Participants were equally accurate in judging same-sex dyads as opposite-sex dyads and in judging targets of the same sex as of the opposite sex.

Group members also show high consensus in estimating one another's power and status. Anderson et al. (2001) had male and female residents of mixed-sex dormitory residence halls rate the social status (influence, prominence, and respect) of their peers 2 weeks, 4 months, and 9 months into the academic year. Within 2 weeks of acquaintance, residents showed strong consensus in their estimation of each other's status, with a

reliability coefficient of 0.81 across the three assessments. The researchers found similarly high consensus in status judgments for all-male and all-female groups.

Such accuracy in power perception extends to one's own power. Although research on positive illusions (Taylor & Brown, 1988) has shown that people tend to self-enhance on a variety of dimensions, people are remarkably accurate in judging their own power within a group. In the dormitory study described earlier, Anderson et al. (2001) also collected self-ratings of status from a subset of participants, and these self-ratings correlated significantly with peer ratings. In other research, self-ratings of status in a group were correlated significantly with peer ratings after working for a mere 20 minutes with a group of strangers (Anderson et al., 2006, 2008). With regard to power, people really do seem to know their place, and the rampant self-enhancement normally found elsewhere is held in check.

(Lack of) Accuracy in identifying the true cues of power

A different picture emerges, however, when one tries to determine which cues individuals use to assess power, and whether these cues are accurate. Most of this research has focused on nonverbal cues. In their meta-analysis, Hall et al. (2005) reviewed studies of the perceived relation between various behaviors and perceptions of power, status, and dominance. In the vast majority of these studies, a particular nonverbal behavior (e.g., smiling) was either experimentally manipulated or varied naturally between target persons, and participants rated each person's level of power, status, or dominance. In this way, the studies indirectly measured participant's beliefs about how these behaviors relate to possession of power, so we refer to these studies as measuring the *perceived relation* between various behaviors and having power. Because Hall et al. (2005) also reviewed the *actual relation* between power and these same behaviors, we could directly evaluate people's general accuracy in identifying cues to power.

The results of this comparison between actual and perceived relations are shown in Table 1. People's perceptions about what behaviors determine power are not very accurate. In particular, people often see nonverbal cues of power that are simply not there, interpreting behaviors as signaling power that are not in fact diagnostic. Although the relation between beliefs and reality is positive (see also Hall et al., 2005), people exaggerate to what degree these behaviors signal power (or the lack thereof).

If people show such skill and consistency in evaluating a target's level of power, how can they be so poor at diagnosing which cues imply power? We propose that the answer lies in the nonconscious nature of power: People are quite accurate at perceiving how much power a person has, but poor at identifying the particular cues that impact this perception because power is both perceived and communicated nonconsciously (Nisbett & Wilson, 1977). Our perspective is in part inspired by recent views of nonverbal behavior, which emphasize that both the encoding and decoding of nonverbal signals for a range of social psychological constructs result largely from automatic processes (Choi, Gray, & Ambady, 2005). The nonconscious engine of perceiving power helps explain why power is communicated and perceived so quickly and effortlessly even if people cannot accurately describe what the particular power cues are.

Known cues of power and their nonconscious nature

We turn now to which cues observers pick up on when they so accurately perceive other's power and the evidence that these cues operate nonconsciously. Some power cues

Table 1 Nonverbal behaviors and their actual relation versus perceived relation with power

Behavior	Actual relation	Perception
Smiling	0	–
Gazing	0	+
Raised brows	0	–
Facial expressiveness/intensity	+	+
Nodding	0	+
Self-touch	0	–
Other touch	0	+
Hand/arm gestures	0	+
Bodily openness	+	+
Postural relaxation	0	–
Interpersonal distance	–	–
Loud voice	+	+
Interruptions	+	+
Pausing/latency to speak	0	–
Filled pauses	0	–
Laughter	0	+
Rate of speech	0	+
Vocal pitch	0	–
Speech errors	0	–
Congruence with actual relation		25%

Behaviors and data on actual relation and perceived relation taken from Hall et al. (2005). +, –, and 0 denote positive, negative, and nonsignificant relations, respectively. Adapted from Hall et al. (2005) and Keltner et al. (2008).

are so complicated, or so innocuous, that it seems unlikely that people consciously notice them or interpret them as indicating power. For example, social power is robustly related to a pattern of gaze known as *visual dominance behavior*: High-power persons look at their interaction partners more when speaking than when listening, whereas low-power persons look more when listening than when speaking (Dovidio & Ellyson, 1985). It seems unlikely that people explicitly calculate this gaze ratio, and indeed attributions of power by interaction partners do not always correlate with visual dominance behavior (Dovidio, Ellyson, Keating, Heltman, & Brown, 1988). Nonetheless, on some level, visual dominance does communicate power to an interaction partner; for example, the visual dominance ratio is related to influence in a problem-solving situation (Linkey & Firestone, 1990). Thus, visual dominance behavior seems to serve as a nonconscious cue of power.

The nonconscious nature of other cues of power has been tested more directly. As seen in Table 1, bodily openness is an accurate power cue: Those with more power tend to expand themselves and take up more space than those with less power. Tiedens and Fragale (2003) artificially placed participants in either an expanded or a constricted pose, supposedly so that various physiologic measures could be taken. Each participant then interacted with a confederate who either assumed a similar pose or the opposite, complementary pose. Participants liked the confederate more and felt more comfortable with the complementary pose than with the similar pose. However, when debriefed, most participants did not report noticing their partner's posture, and none of them reported that their partner's posture affected their feelings. Posture, as a power cue, affected their feelings without conscious awareness. This work on complementarity also suggests one reason why the perception of power is accurate even when individuals

cannot overtly acknowledge specific cues: The essential benefits of hierarchy, increased coordination and conflict reduction, likely emerge only when people accurately perceive the hierarchy.

Taller people tend to earn more money, have higher-status jobs, and win more presidential elections (Judge & Cable, 2004), but vertical position can also serve as a nonconscious power cue: The higher a target is, the more powerful it is perceived to be, even when its vertical position is clearly arbitrary (Schubert, 2005). For example, Giessner and Schubert (2007) had business and economics students form an impression of a manager, who was described in a paragraph accompanied by an organizational chart. In that chart, the vertical line connecting the manager to the subordinates was either short or long, giving the manager either a lower or a higher vertical position. Even though these students knew that the length of the line had no official meaning, they ascribed more power to the manager when he was positioned higher. In another experiment, participants were merely primed with either the concept of shortness or tallness through exposure to short or tall lines, and then rated a manager's powerfulness. Being primed with tallness led participants to rate the manager as more powerful than being primed with shortness.

Size also functions as a nonconscious power cue. Schubert, Waldzus, and Giessner (2009) showed participants names of low-power groups (e.g., student) and high-power groups (e.g., professor), and participants had to indicate whether each group was powerful or powerless. Each group was shown twice, once in a large font and once in a small font. Participants responded more quickly to low-power groups written in small font and high-power groups written in large font, even when they were explicitly warned in advance not to let the size of the font bias their responding.

Most research on nonconscious power cues has focused on how cues affect the level of power individuals ascribe to targets. Individuals also use power cues when determining how much power to ascribe to themselves. For instance, thinking abstractly makes individuals feel more powerful (Smith, Wigboldus, & Dijksterhuis, 2008), even when thinking is manipulated subtly. Smith and colleagues showed participants a series of hierarchical letters: large letters composed of smaller letters, with the small letters always differing from the large, overall letter (e.g., a large S composed of small Es). Some participants had to name the overall letter, which meant they repeatedly took an abstract, global perspective. Other participants had to name the small letters that each figure was made up of, which meant they repeatedly took a concrete, local perspective. Afterward, participants indicated how interested they were in taking on various low- and high-power roles. Thinking abstractly in the letter task made participants more interested in high-power roles, relative to thinking concretely. However, participants did not interpret the letter task as manipulating thinking styles, nor did they think the task had any influence on their role preferences. Thus, thinking abstractly made participants feel more powerful, but they were unaware of this transformation. Similarly, bodily openness makes people feel more powerful and behave more like a powerful person, even when they are not consciously aware they are assuming an expanded (versus constricted) pose (Carney, D. R., Cuddy, A. J. C., & Yap, A. J. (2010) Unpublished manuscript).

In sum, people are fast and accurate at detecting how much power another person has and how much power they themselves have. This occurs in part because people perceive and use power cues efficiently and effectively, without conscious awareness. In fact, when people attempt to consciously discern which cues are diagnostic of power, they are woefully inaccurate. Overall, cues to power are processed more accurately at a nonconscious than conscious level.

Nonconscious Consequences of Power

Not only are people often unaware of the cues of power that they rapidly perceive, but they are also often unaware of how possessing power influences their thoughts, feelings, and behavior. A growing body of research suggests that the level of power held at the office may influence individuals even after 5 o'clock arrives, their power at the university may influence them outside the classroom, and their power in a relationship may influence them even when their partner is nowhere to be seen. Furthermore, this level of power drives a range of behaviors that are not typically associated with power, such as where they sit on the subway ride home or how quickly they turn off the annoying overhead fan in a plane.

Methodological considerations: from cues to consequences

To clarify what we mean when we say that the consequences of power are nonconscious, it helps to explain how researchers study these consequences. Researchers have two general methodological techniques that allow them to claim that particular effects of power are nonconscious. First, they can measure the effects of power in power-irrelevant situations, where it would make little sense for participants to consciously allow their power position to influence them. Second, they can manipulate power subtly so that participants are unaware that their sense of power has been altered. The second technique uses three primary methods: (a) cues to power, (b) exposure to words related to power, and (c) recollection of instances of having/lacking power. The second technique, of course, allows for the strongest claims of the nonconscious nature of power's effects.

With the first technique, researchers often place individuals into positions of high or low power (e.g., manager versus subordinate) for an ostensible group task and then observe their behavior in situations that are functionally irrelevant to their position of power (e.g., Anderson & Berdahl, 2002; Galinsky et al., 2003; Richeson & Ambady, 2003; Smith & Bargh, 2008). In a typical experiment, participants first complete an ostensible 'Leadership Questionnaire.' Although they are randomly assigned to the high- and low-power roles, they are told that their responses on this questionnaire will be used to assign one of them to the role of manager and the other(s) to the role of subordinate. As discussed later, the nonconscious effects of power are affected by whether powerful and powerless roles are perceived to have been determined legitimately versus randomly or in violation of merit (Lammers, Galinsky, Gordijn, & Otten, 2008; Smith, Jost, & Vijay, 2008). Once these roles have been assigned, experimenters ask participants to work on an unrelated task while the group task (in which they will exercise their low- or high-power roles) supposedly is being set up. This 'unrelated' task is actually the measure of interest.

The second technique encompasses a variety of methods varying in the degree of awareness potentially involved. Sometimes, high and low power are instantiated through naturally occurring cues of power. For example, Chen et al. (2001) conducted one of their experiments in a professor's office. Each participant sat either in the professor's lofty chair behind the desk or in a smaller, less luxurious chair in front of the desk. Sitting in the professor's chair serves as a subtle environmental cue unobtrusively leading people to feel powerful, whereas sitting in the guest chair subtly conveys less power. Similarly, putting people into an expanded bodily posture leads them to feel more powerful (Carney, D. R., Cuddy, A. J. C., & Yap, A. J. (2010), Unpublished manuscript), and gazing directly at another person makes the gazer feel powerful (Guillory, L. & Gruenfeld, D. H. (2010), Unpublished data). These paradigms build on the nonconscious nature of

power cues by signaling who does and does not have power using subtle features found in everyday, real-world settings.

Other research goes even further in testing the nonconscious consequences of power by using conceptual or mindset priming manipulations: The concept of power is activated without either overtly giving participants actual power or implying they have power through power cues. Two basic forms of power priming have been used in research on nonconscious power: conceptual/semantic priming and mindset/episodic priming (Bargh & Chartrand, 2000). With conceptual or semantic priming, a particular concept (e.g., power) is activated by exposing participants to words related to that concept. In a number of these paradigms, words related to power are activated supraliminally; that is, participants are consciously aware of the words they see but not necessarily aware that a particular construct is being activated. For example, in some studies, participants first completed a scrambled sentences task or a word completion task. In a scrambled sentences task, participants make grammatically correct sentences out of sets of words, with a percentage of the sets containing a word related either to low power (e.g., subordinate) or to high power (e.g., authority), depending on a participant's experimental condition (Smith & Trope, 2006). In a word completion task, participants complete word fragments, with a percentage of these fragments only able to be completed with either low- or high-power words (Anderson & Galinsky, 2006; Bargh et al., 1995). Such supraliminal but indirect exposure to words related to, say, low power activates the mental representation of low power, without participants being conscious of it.

In still other conceptual priming experiments, words related to power are primed subliminally. These studies typically use a sequential priming paradigm, which allows researchers to assess the automatic associations people have with power. For example, Bargh et al. (1995) used a sequential priming paradigm in which words related to power were subliminally presented before words related to sex to test for power → sex associations (see also Zurbriggen, 2000). Zhong et al. (2010) used the same basic paradigm to test whether the association of power with reward and responsibility differed by culture. Regardless of the exact form or level of awareness in these various conceptual priming paradigms, the concept of either low power or high power is activated or primed in participants' minds.

Rather than activating semantic concepts, mindset or episodic priming activates procedural knowledge, a way of thinking, with the expectation that participants will nonconsciously carry over this mental procedure to subsequent tasks. Galinsky et al. (2003) were the first to use an episodic power-priming task. They asked participants to write for several minutes about an episode in their past. Some participants were asked to write about a situation when another person or other people had power over them. Other participants were asked to write about a situation when they had power over another person or other people. Having relived the experience of lacking or having power by writing about it for several minutes, participants then nonconsciously carried these ways of thinking, feeling, and behaving over to a subsequent task.

From a social cognitive perspective, conceptual and mindset priming have theoretically different consequences. Conceptual priming activates a mental representation and its associations in an unobtrusive way, whereas mindset priming involves the nonconscious carryover of an intentionally pursued mental procedure. This also means that the two types of priming involve different degrees of awareness. With conceptual priming, participants are generally unaware both that a concept has been activated and that it has a future influence on them, whereas with mindset priming, participants are often well aware that

they have engaged in a mental consideration of power, but they are unaware that they continue to use the activated tendencies at a later point.

Although all of these techniques – actual hierarchical roles, physical cues to power, conceptual priming, and episodic recall – vary on multiple dimensions, they serve the same purpose in studying the nonconscious consequences of power. That is, assigning people to manager/subordinate roles, placing them in luxurious versus confined chairs, and priming power (either conceptually or episodically) essentially exist within the same general paradigm: Power is possessed or activated in one context, and then the effects of power are explored in contexts unrelated to the source or activation of power.

It is then unsurprising that nonconscious power does not seem to function differently than conscious power. All the ways of manipulating power seem to have similar effects. For example, many papers have utilized a combination of role-based power, conceptual power priming, and episodic recall manipulations of power, thereby establishing that these various manipulations have qualitatively similar results (e.g., Anderson & Galinsky, 2006; Briñol, Petty, Valle, Rucker, & Becerra, 2007; Chen et al., 2001; Galinsky et al., 2003, 2008; Gruenfeld et al., 2008; Guinote, 2007a,b; Lammers et al., 2008; Smith et al., 2008; Smith & Bargh, 2008; Smith & Trope, 2006; Weick & Guinote, 2008).

Although role-based and priming manipulations of power have similar effects on behavior, priming power may sometimes be a better methodological choice for researchers than overtly manipulating power. It can be difficult to manipulate power in an ethical, believable, and effective way in the laboratory. Even in published research (e.g., Anderson & Berdahl, 2002; Goodwin et al., 2000; Guinote et al., 2002; Lee, 1997), manipulation checks and funnel debriefings sometimes reveal that participants did not believe they truly had the amount of power they were experimentally assigned.

However, the benefits of taking a nonconscious perspective on power's consequences are more than mere methodological expediency. Such a perspective reminds us that power's effects extend far beyond power-relevant situations and overt, interpersonal behavior. Having versus lacking power, even if that possession or dispossession exists only at a psychological level, fundamentally changes the way people perceive and interact with the world. Furthermore, this perspective moves us beyond the issue of whether powerful and powerless people consciously choose to behave in particular ways. If activating the concept of having power nonconsciously has the same effect on people as placing them explicitly in a high-power role, then intentionality becomes potentially unrelated to the effects of power.

We turn now to the range of cognitions and behavior that power nonconsciously generates. Two broad consequences of power have been documented. Power makes people more abstract, global, and conceptual in their thinking (Smith & Trope, 2006) and more approach-oriented in their behavior (Keltner, Gruenfeld, & Anderson, 2003). As a result, power appears to make people more goal-directed and more attentive to their internal states and less concerned with the situation or the perspectives of others.

Power's nonconscious effects on abstraction

The powerful, compared to the powerless, focus less on the details and more on the 'big picture' (Smith & Trope, 2006). Having power gives people the psychological distance (Liberman, Trope, & Stephan, 2007) needed to process information at higher levels of abstraction, to better see the forest beyond the trees. Power thus leads to a focus on the global rather than the local features of stimuli (Guinote, 2007a). The powerful are better able to perceive patterns and to capture the gist of information (Smith & Trope, 2006).

For example, Smith and Trope found that high-power participants were better at seeing relationships between words and at perceiving patterns in fragmented pictures than low-power participants. The powerful are also more likely to focus on and attend to task-relevant information (Overbeck & Park, 2001). That is, their thinking, because it is more abstract, is more goal-focused, a point we will return to later.

The effect of power on abstract thinking has also been found outside the laboratory. In an analysis of comments appearing in the media during the days after Hurricane Katrina hit land, Milliken, F. J., Magee, J. C., Lam, N., and Menezes, D. (2008) (Unpublished manuscript) found that high-power individuals in the federal, state, and local governments described the events in the Gulf Coast region of the US in more abstract terms than did the less powerful first responders or victims. Similarly, Magee, Milliken, and Lurie (2010) found that immediately after the 9/11 attacks, individuals with position power described the attacks in terms that were more abstract (versus concrete), positive (versus negative), and certain (versus uncertain) than those without position power. Across these two different disasters, power differences between individuals helped explain the apparent 'disconnect' between government officials, first responders, and victims.

This increase in abstract thinking, as with other forms of psychological distance (e.g., Liberman & Trope, 1998), leads the powerful to place more relative weight on the desirability of an action's potential outcomes, compared to the feasibility of actually achieving those outcomes, when making decisions (Smith, P.K. (2010), Unpublished manuscript). For example, when deciding whether to play a gamble, high-power people were more influenced by the amount of money they could win, and less influenced by the probability of winning, than low-power people. This relative focus on desirability, and neglect of feasibility, helps explain why increased power leads to greater risk-taking (Anderson & Galinsky, 2006).

This neglect of feasibility information, of the difficulties and potential obstacles in one's path, should also make people more optimistic and confident (Liberman et al., 2007; Nussbaum, Liberman, & Trope, 2006). Indeed, the powerful are more optimistic and confident than the powerless, even in domains unrelated to their power. Anderson and Galinsky (2006) found that priming power made people more optimistic about their futures. Fast, Gruenfeld, Sivanathan, and Galinsky (2009) presented evidence that power leads to an illusory sense of control, a belief that one can influence outcomes that are actually beyond one's reach, such as the roll of a die. This optimism can explain why the powerful are more likely to cheat and act unethically: They focus on the rewards and ignore the possibility of getting caught (Lammers, Stapel, & Galinsky, 2010).

Because having power places people at the top of the pyramid, giving them psychological distance, high-power people think more abstractly than low-power people. Thus, those in power are better able to see patterns and extract the 'big picture.' This perspective leads them to be more optimistic and attracted to desirable but risky possibilities. Overall, power gives people a broader vision of the world so that they see it with more certainty, confidence, and control.

Power's nonconscious effects on approach

In their approach/inhibition theory of power, Keltner et al. (2003) propose that power affects the relative activation of the approach and inhibition motivational systems. Because those with power possess more resources and experience fewer constraints than those without power, power activates the behavioral approach system, which regulates behavior associated with rewards. In contrast, the more constrained, restrictive context of low

power activates the behavioral inhibition system, which has been equated to an alarm system that scans the environment for threats or potential punishments (Carver & White, 1994; Gray, 1991; Higgins, 1997).

Empirical research has supported the hypothesis that power increases approach-related behavior (e.g., Anderson & Berdahl, 2002; Anderson & Galinsky, 2006; Galinsky et al., 2003; Magee, Galinsky, & Gruenfeld, 2007; Smith & Bargh, 2008). For example, high-power participants are faster to approach stimuli (but not to avoid them) in a lexical decision task and are more likely to sit closer to a fictitious student than low-power participants (Smith & Bargh, 2008). As a result, power leads people to greater action (Galinsky et al., 2003). For example, high-power individuals are more likely to initiate negotiations, choose to go first in debates, and make a first offer in a negotiation, relative to low-power individuals (Magee et al., 2007).

Legitimacy and culture moderate the effects on approach. Despite multitudes of studies establishing the power → approach connection, how power is conceptualized plays a large role in this relationship. For example, the illegitimacy of power, how it is acquired or exercised, alters the relationship between power and approach, with illegitimate low power leading to more approach than illegitimate high power (Lammers et al., 2008; but see Smith, Jost, & Vijay, 2008, for an alternative perspective). Lammers et al. found this moderation when powerful roles were acquired illegitimately, when participants recalled a time when they held or exercised power illegitimately, or when power and illegitimacy were both primed together, demonstrating its nonconscious nature.

In every culture, power is an important determinant of thought and behavior, but cultures differ in their conceptualizations of power. Western philosophical tradition suggests that to have power is to have the freedom to satisfy one's own desires, whereas Eastern philosophy has talked about the importance of inhibition for the powerful and the role of responsibility for and obligations to those who submit to their power. Zhong et al. (2010) demonstrated the nonconscious nature of these different conceptualizations of power by subliminally priming power and seeing individuals' subsequent associations with words related to rewards and responsibility. They found that Westerners who were primed with power (versus paper) responded more quickly to reward-related words but more slowly to responsibility-related words. East Asians showed the exact opposite associations with power: greater accessibility of responsibility-related words and weaker accessibility of reward-related words following a subliminal power prime. These results further support the idea that the effects of power depend on how it is conceived and understood.

The elusive search for nonconscious effects of power on emotions

Despite being one of the core predictions of the Keltner et al. (2003) theory paper, evidence for power influencing affect nonconsciously is almost nonexistent. Many studies have explicitly demonstrated no relation between priming manipulations of power and changes in affective states (e.g., Galinsky et al., 2003; Rucker & Galinsky, 2008; Smith & Bargh, 2008; Smith & Trope, 2006; Weick & Guinote, 2008). Emotional effects of power have generally only emerged in actual dyadic interactions (Anderson & Berdahl, 2002; Berdahl & Martorana, 2006; Langner & Keltner, 2008). The one relevant article we could locate was work by Wojciszke and Struzynska Kujalowicz (2007) on power and self-esteem. They found that power, whether assigned or merely primed, increased self-esteem by making people's mood more positive.

Berdahl and Martorana (2006) hypothesized that power will only affect emotional responses during social interactions that are important or meaningful. It is not clear what role consciousness plays here. As most power-priming experiments have involved very cognitive tasks unrelated to the source of power, it is not yet known whether nonconscious power may also affect emotions in unrelated but emotionally laden tasks. Clearly, emotions are one domain in which conscious and nonconscious power may possibly differ, and future research should explore this possibility more explicitly and rigorously.

Goal-oriented cognition, social perception, and behavior

Power's effects on both approach and abstraction can also explain another robust finding in the power literature: Having power leads individuals to be more goal-directed. Power channels thought and behavior toward accomplishing one's goals in a wide variety of situations (Bargh et al., 1995; Chen et al., 2001; Galinsky et al., 2003). Power, even when activated nonconsciously, leads individuals to be more likely to engage in behaviors consistent with their currently held goals. For example, Galinsky et al. (2003) induced discomfort in participants by having an annoying fan blow directly onto them, but it was unclear whether it was permissible to move or turn off the fan. The powerful were more likely to remove that stimulus and satisfy their goal of reducing physical discomfort. Similarly, the powerful are faster to choose a course of goal-directed action and to initiate such action (Guinote, 2007b). In these cases, the powerful approach their goals with more intensity than do the powerless.

Power-induced abstract processing probably plays a role in this goal orientation by leading the powerful to focus on central, goal-relevant aspects of stimuli (Smith & Trope, 2006). By seeing the forest, the powerful are not constrained by the gnarled branches of the trees. Indeed, Smith and Trope found that the powerful preferred to describe actions in terms of the goals they served, compared to the powerless. Similarly, in an Embedded Figures Task, high-power participants were better at detecting goal-relevant simple figures within complex patterns than were low-power participants. Guinote (2007a) found additional evidence for such selective processing on the part of the powerful: High-power but not low-power participants were able to focus on particular features of stimuli, depending on what was most relevant for the task at hand.

Other evidence of the relation between power and goal direction comes from research showing that the powerless show decrements in executive functioning (Smith, Jostmann, Galinsky, & van Dijk, 2008). Proper executive functioning requires effective goal focus, and impairments result from difficulty in actively maintaining a goal (Engle, 2002). As a result, being in a low-power position or being primed with low power impaired executive functions, making participants worse at parsing out irrelevant information and planning ahead to achieve their goals. These impairments were not because of the powerless being less motivated or putting in less effort; instead, they had difficulty maintaining a focus on their current goal (Smith, Jostmann, Galinsky, & van Dijk, 2008).

As a result of increased goal direction, power increases objectification, or the tendency to view others as a tool for one's own purpose and to conceive of individuals in one's social environment as possessing an instrumental and utilitarian purpose (Gruenfeld et al., 2008). The powerful approach and attend specifically to useful others who will help them complete their goals. For example, Gruenfeld et al. assigned male participants to either a low-power or high-power role and then primed half of these individuals with words related to sex (e.g., *stiff, wet, bed, skin, sweat*). They found that the high-power participants wanted to work with an attractive female but only after being exposed to words related to sex.

But these tendencies towards increased goal direction are not always harmful or malevolent; this depends on the kind of goal salient at the moment. For example, Overbeck and Park (2006) found that the powerful took greater effort to learn about their subordinates and remembered more distinct information about them when they were assigned goals related to making their workplace comfortable, versus goals related to making their workplace productive and efficient. The powerless, meanwhile, were insensitive to the assigned goals. Similarly, Gruenfeld et al. (2008) found that when choosing among job candidates, high-power participants were more likely to select the candidate who best matched the position qualifications and requirements, compared to low-power participants. The relationship between power and goal focus can also explain why the powerful are ironically more likely to forgive transgressions. Karremans and Smith (forthcoming) found that high-power individuals were more likely to forgive close relationship partners, compared to low-power individuals, particularly because they could move beyond their momentary hurt feelings and focus on their long-term goal of maintaining the relationship. All in all, power is associated with instrumental attention driven by one's most salient, currently held goal.

Attention to internal states and increased correspondence between traits and behavior

One way that power intensifies pursuit of currently held goals is by increasing attention to internal states. That is, power magnifies current desires, needs, and feelings, and this in turn may propel people to approach their goals more effectively and vigorously. As a result, the powerful demonstrate increased correspondence between traits and behavior.

There is abundant evidence that having power increases greater reliance on one's internal state. For example, power has different effects on persuasion depending on whether power is induced before or after a persuasive message (Briñol et al., 2007). Activating power prior to a message increases the validity of high-power people's pre-existing views, making them less persuadable than low-power people. However, activating power after a message has been processed validates recently generated thoughts about the message itself, leading the powerful to be more persuaded and confident in their new attitude. Related to the idea that power makes people more sensitive to their own thought processes, Weick and Guinote (2008) found that power makes people more reliant on their own subjective feelings, specifically on the experienced ease or difficulty of generating thoughts. This follows naturally from the more abstract thinking of the powerful (Smith & Trope, 2006), as subjective experiences are abstract, comprehensive meta-summaries (Clore & Parrott, 1994; Jacoby & Kelley, 1987; Jacoby & Whitehouse, 1989). Finally, the powerful are more sensitive to how much they like certain foods (Guinote, 2010). Like the obese (Schachter, 1968), people gorge on the foods they like and shun the cuisines they dislike when under the sway of even nonconscious power.

As the powerful are more attentive to their own states, they are less attentive to other's internal states. In fact, activating power nonconsciously leads individuals to be less likely to consider another person's perspective and less likely to take into account that another person might lack knowledge to which they themselves have privileged access (Galinsky, Magee, Inesi, & Gruenfeld, 2006).

Other research has focused on the decreased influence of subordinate, incidental details on the behavior of the powerful, relative to the powerless. Galinsky et al. (2008) found that power makes people relatively immune to the strength of the situation. In their work, the powerful generated creative ideas that were less influenced by the examples generated by others, expressed attitudes that conformed less to the expressed opinions of

others, and were more influenced by their own social value orientation relative to the reputation of a negotiating partner.

Higher levels of abstraction likely contribute to this increased correspondence between traits and behavior by the powerful (Bargh et al., 1995; Chen et al., 2001). Taking a high-level perspective on behavior focuses one's attention on why one does something rather than how one does it. Powerholders, more than the powerless, should thus be guided by their primary predispositions rather than by subordinate, incidental concerns. For instance, Chen et al. (2001) found that simply sitting in a high-power chair (in a professor's office) led those with a communal orientation to demonstrate greater generosity, but drove those with an exchange orientation to engage in more self-serving behaviors. These effects actually reversed when people sat in a low-power chair. Similarly, for men with a tendency to sexually harass or aggress, the psychological sense of power automatically leads to the activation of concepts associated with sex and to the perception of female work partners in sexual terms (Bargh et al., 1995).

Overall, power increases attention to internal states and increases the correspondence of thought and behaviors. Simply put, intra-individual processes have greater sway than situational or interpersonal ones on the expressions of the powerful.

Implications of Nonconscious Power

We feel that our discussion of the nonconscious cues and consequences of power is particularly valuable because the subjective sense of power appears to be more important than a person's objective level of power in predicting actual behavior (Haidt & Rodin, 1999; Skinner, 1996). For example, a sense of power often mediates the effects of objective power (Anderson & Berdahl, 2002), and when objective and subjective power conflict, the subjective sense of power dominates (Bugental, Lyon, Krantz, & Cortez, 1997): If objectively powerful persons perceive themselves as powerless, they act as if they are in fact powerless (Bugental & Lewis, 1999; Martorana, 2005). As the conceptual and mind-set priming studies demonstrate, the sense of power directly guides behavior even when objective power differences do not exist.

Awareness and intentionality are always a hot topic when it comes to power. The issue of whether people in power intend to do what they do, especially when their behavior is self-serving or even Machiavellian in nature, is a point of contention in the power literature (Chen et al., 2001; Fiske, 1993; Keltner et al., 2003; Kipnis, 1972; see Lee Chai & Bargh, 2001, for a recent review). Thus, removing the potential for awareness and intent on the part of the powerful and the powerless is important. Although power can be consciously perceived and consciously enacted, this review demonstrates that not only is nonconscious power a viable concept, but also that power's effects do not depend on the degree of consciousness involved. In fact, power itself makes people less aware of how their behavior and actions affect others (Galinsky et al., 2006).

The potential irrelevance of consciousness is particularly important when one considers the more corrupting side of power. The nonconscious nature of power combined with the corrupting nature of power also fits into the broader, ongoing debate on the notion of free will (Wegner & Wheatley, 1999) and whether those in power should be held responsible for their actions.

Discussing the 'dark side' of power naturally raises the issue of how to attenuate or eliminate these negative effects. Classical perspectives on power have often assumed that powerful people in part consciously and intentionally choose to behave in selfish, careless ways. Thus, proposed remedies have involved giving powerholders appropriate

motivation or incentive to 'be good.' Our perspective suggests that such remedies may not always succeed. Powerful people may often be unaware of how their power influences them and so making them aware of such effects may be particularly helpful. However, until there is more research on the controllability and efficiency of power's effects, we cannot know whether the powerful can change their thinking patterns and behavior through willful motivation alone.

Understanding the nonconscious nature of power holds the promise of preventing the perils of power exercised without awareness. What is needed to attenuate the corrupting side of power is probably a mix of selection (picking the right type of leader), education (increasing awareness), and organizational culture and incentives (providing appropriate goals). Because power increases the correspondence between underlying states and behavior – power reveals the person, whether the person chooses or is consciously aware of this or not – organizations need to be careful to assign power to those people who have appropriate predilections and propensities or hold group-serving values. Institutions and organizations should be structured so that selfless goals and values are nurtured, supported, and ultimately internalized. By both bringing the nonconscious effects of power into awareness and constructing and internalizing communal goals, the dark side of power may be held in check.

Short Biographies

Pamela K. Smith is currently Assistant Professor of Management and Strategy at the Rady School of Management at the University of California, San Diego. Her research primarily focuses on the social cognition of power: how lacking versus having power affects low-level processes. This research began with her dissertation on how having power leads to more abstract thinking, which received the 2005 Society of Experimental Social Psychology Dissertation Award. Her work on power has continued in a variety of domains, including information weighting in decision-making, executive functions, and size perception. She also studies the subtle cues people use (consciously or nonconsciously) to determine their own and other people's level of power. Additionally, she is interested in basic systems—the BAS/BIS, approach versus avoidance motivation, promotion versus prevention—and how they explain the way people think, feel, and behave. Her research utilizes a variety of methodologies, from more traditional computer lab experiments to surveys to virtual reality. She received her PhD from New York University.

Adam D. Galinsky is currently the Morris and Alice Kaplan Professor of Ethics and Decision in Management at the Kellogg School of Management at Northwestern University. He has five primary lines of research. His main interest has been in exploring how having versus lacking power and control affects basic psychological processes (e.g., illusory pattern perception, perspective-taking, assertiveness, creativity, etc.) in meaningful social contexts (e.g., consumer spending, negotiations, stock market decisions, organizational tasks, etc.). His work on negotiation and auction behavior has focused on how, why, and when starting values determine final outcomes and was featured as one of the 2006 Ideas of the Year by the *New York Times Magazine*. Recently, he has started to explore how multicultural experiences, particularly experiences living abroad, facilitate long-term increases in creativity. This latter work builds off his initial dissertation interests in how perspective-taking affects intergroup conflict, stereotyping, and prejudice. Finally, he has pioneered the concept of the counterfactual mindset, showing how thinking about what might have been affects subsequent, unrelated decision making. Overall, his work takes a multidisciplinary approach and utilizes a range of methods from correlational designs to

experimental lab studies to field studies to produce theoretically rich work with direct practical implications.

Endnote

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