



FlashReport

The powerful size others down: The link between power and estimates of others' size

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HIGHLIGHTS

- ▶ Power distorts impressions of another person's physical size.
- ▶ The powerful systematically underestimated the size of the target.
- ▶ The powerless systematically overestimated the size of the target.
- ▶ Results emerged whether the target was in a photograph or face-to-face.
- ▶ Power leads people to misperceive complementary power cues in others.

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ABSTRACT

The current research examines the extent to which visual perception is distorted by one's experience of power. Specifically, does power distort impressions of another person's physical size? Two experiments found that participants induced to feel powerful through episodic primes (Study 1) and legitimate leadership role manipulations (Study 2) systematically underestimated the size of a target, and participants induced to feel powerless systematically overestimated the size of the target. These results emerged whether the target person was in a photograph or face-to-face. These findings suggest that the experience of powerfulness and powerlessness leads people to misperceive complementary power cues in others, and in doing so, distorts what they actually see. We discuss how these findings elucidate the interplay between how psychological states influence perception, and through this, facilitate social coordination.

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Introduction

A growing body of research suggests that the visual system is not a passive recording device that relies exclusively on a bottom-up sensory-triggered process (Bar, 2004, 2007; Cheung & Bar, 2012; Proffitt, 2006). Instead, the visual system is proactive and constructive. It draws as much on a priori knowledge and past experiences in identifying objects, as on spatial frequency, color and other sensory information reaching the retina (Atkinson & McClelland, 1948; Bruner & Minturn, 1955; Markus & Zajonc, 1985). Indeed, people tend to interpret ambiguity in stimulus properties in a manner that confirms their beliefs, expectations and motivations (Balcetis & Dunning, 2006; Biederman & Cooper, 1991; Carter & Schooler, 1949; Dubois, Rucker, & Galinsky, 2010). An open question is whether perception is also affected by power. Power is a fundamental and pervasive force in all social relationships. The present research tested and demonstrated that the psychological experience of powerfulness and powerlessness distort impressions of others by causing one to misperceive complementary power cues in others.

Power, the capacity to influence other people through asymmetric control over valued resources (Blau, 1964; Keltner, Gruenfeld, & Anderson, 2003; Magee & Galinsky, 2008), is widely conceived of as a force around which social relationships are organized (Fiske, 1992; Russell, 1938). By providing clues about which interpersonal conflicts to avoid, to whom one should defer, and how best to coordinate interdependent action, power serves a relational heuristic function (Chance, 1967; Keltner, Van Kleef, Chen, & Kraus, 2008). Consistent with the view that power streamlines social interactions by helping people efficiently decide how to interact and coordinate with others, people are acutely sensitive to cues that signal who does and who does not control shared resources (Anderson, Srivastava, Beer, Spataro, & Chatman, 2006; Mason, Zhang, & Dyer, 2010). For example, Anderson et al. (2006) demonstrated that group members achieve impressive levels of consensus about the existing power structure after just a few weeks of interaction.

Importantly, people also have an unconscious desire for hierarchically differentiated relationships (Tiedens, Unzueta, & Young, 2007). This desire results in dominance complementarity, whereby people view interaction partners as contrasting with the self in terms of dominance (i.e., a powerful person views his/her partner as powerless and vice versa). Since people are effective at recognizing power cues and tend to contrast themselves in terms of power with others,

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our concern is whether power could lead people to misperceive complementary power cues, in a way that distorts their perception of others. For instance, would a powerful person perceive another person in ways consistent with expectations about how a powerless person should look? In the present research, we examine if power affects one's perception of another's physical stature.

Expectations about power and size

Physical properties such as size and height are considered symbols of hierarchical authority across a range of animal species (Fiske, 1992, 2004; Jacob et al., 2007). In non-human primates, status, which translates to preferential access to food, mates, shelter and other desirable commodities, is conferred to group members who are physically large. In fact, the existing literature suggests that animals strategically use this association to their advantage (Darwin, 1872; Freedman, 1979). For example, the chimpanzee holds its breath and expands the chest in a bid to augment its apparent size as an assertion of hierarchical rank (de Waal, 1998).

The tendency to assume that large group members have power is also common among humans. Taller individuals are ascribed greater power (Judge & Cable, 2004), perceived to be more successful and persuasive, and are more likely to be looked upon to lead than their small-bodied counterparts (Higham & Carment, 1992; Stogdill, 1948). Indeed, recent research suggests that this association between power and physical stature can lead powerful people to overestimate their own physical size (Duguid & Goncalo, 2012). Like their primate counterparts, humans express power non-verbally through the taking up of physical space (Carney, Hall, & Smith LeBeau, 2005; Ellyson & Dovidio, 1985; Hall, Coats, & Smith LeBeau, 2005). An emerging body of work also reveals that the taking up of space induces neuroendocrine and behavioral changes that embody power (Bohns & Wiltermuth, 2012; Carney, Cuddy, & Yap, 2010; Huang, Galinsky, Gruenfeld, & Guillory, 2011). Not only do people associate size with power (Higham & Carment, 1992; Schubert, Waldzus, & Giessner, 2009), they also use size to gauge their relative social standing.

We argue that people see not only themselves but also others through the lens of power. We propose that psychological states of powerfulness and powerlessness lead people to view interaction partners as contrasting with the self in terms of power, and they use others' power or lack thereof, as a direct indication of their physical stature. Accordingly, we hypothesized that: (1) Powerful individuals will underestimate the size (height and weight) of others and (2) Powerless individuals will overestimate the size of others.

The current research

We tested the hypothesis that power influences one's perception of another's physical size in two experiments. In Study 1, we examined whether priming power affects judgment of another individual's size from a photograph. In Study 2, we tested the hypothesis in a naturalistic, face-to-face social interaction, and where the powerful has actual control over monetary resources.

Study 1

Method

Participants and design

Eight-five students (65 females) from the United States were randomly assigned to two experimental conditions (powerful, powerless) in the laboratory. Participants first completed a power manipulation. Following Galinsky, Gruenfeld, and Magee (2003), they wrote about a past experience where they had power over another individual or where someone else had power over them. They then viewed a picture of a person of their gender (see Fig. 1) and were asked to estimate that

person's weight and height. Accuracy indices for weight and height were computed by subtracting the participant's estimates from the target's true weight and height. Accordingly, positive scores denote an overestimation and negative scores denote an underestimation. For example, a participant's estimation of the target's weight is 200 lbs but the target's true weight is 180 lbs—this would produce an overestimated index of 20 lbs. Similarly, a participant's estimation of target's height is 5'9" but the target's true height is 5'3"—this would produce an overestimation of 3 in.). A composite size estimate was then computed by transforming the indices of weight and height into z-scores and then summing these values.

Results and discussion

We predicted that powerful participants would underestimate the target's size and powerless participants would overestimate it. As hypothesized, a one-way ANOVA revealed a significant effect of power on the accuracy scores, $F(1, 83) = 7.3, p < .01, r = .28$. Powerful participants were more likely to underestimate ($M = -.35, SD = 1.50$) the target, whereas powerless participants were more likely to overestimate ($M = .52, SD = 1.45$) the target. It is possible that participants' own size would affect their estimates, hence we controlled for it in an ANCOVA and found that the effect of power remained significant, $F(1, 83) = 11.26, p < .01$.

Thus, the experience of powerfulness and powerlessness led people to misperceive cues of powerlessness and powerfulness, respectively, in others.

Study 2

In Study 2, we wanted the power dynamics to be consequential to the perceivers. Participants engaged in a naturalistic social interaction, where the power holder had control over the other party's actual monetary outcomes. This also created an opportunity for them to interact face-to-face and observe each other's size.

Method

Participants and design

Thirty-two students from the United States arrived at the laboratory in pairs. Because physical size varies by sex and ethnicity, only Caucasian males were recruited. The experiment had a single factor: Power role (powerful, powerless) between-subjects design. Upon arrival, participants were introduced to each other and informed that they were participating in a study involving how compensation decisions are made in organizations and could possibly earn up to \$10 in this exercise. The experimenter explained that they would either play the role of an Offerer (Powerful) or a Receiver (Powerless), and that the Offerer would have complete control over the distribution of the money. To determine who would play which role, participants had to fill out a "Leadership Questionnaire" (adapted from Anderson & Berdahl, 2002) on a computer in separate rooms. Research suggests that to appropriately and effectively manipulate power, the power must be perceived as legitimate by all parties involved (Anderson & Berdahl, 2002; Lammers, Galinsky, Gordijn, & Otten, 2008). Legitimacy was established by informing participants that the computer would compare the results of the leadership questionnaire and pick the most suitable person for the Offerer role. However, in actuality, the roles were randomly assigned. In addition to the leadership questions, participants answered demographic questions and questions about their weight and height. The latter were used to assess the accuracy of their partner's size judgments.

Upon completing the questionnaires, the computer displayed a screen with the following instructions: "Your personality and leadership capabilities are being assessed, please wait." They were then told which role they would play by the computer. At this point, the

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