Journal of Experimental Psychology: General
2015, Vol. 144, No. 3, 655–663

0096-3445/15/$12.00 http://dx.doi.org/10.1037/xge0000068

Power Effects on Cognitive Control: Turning Conflict into Action

Petra C. Schmid
New York University

Tali Kleiman
Hebrew University of Jerusalem

David M. Amodio
New York University

Power is known to promote effective goal pursuit, especially when it requires one to overcome distractions or bias. We proposed that this effect involves the ability to engage and implement cognitive control. In Study 1, we demonstrated that power enhances behavioral performance on a response conflict task and that it does so by enhancing controlled processing rather than by reducing automatic processing. In Study 2, we used an event-related potential index of anterior cingulate activity to test whether power effects on control were due to enhanced conflict sensitivity or action implementation. Power did not significantly affect neural sensitivity to conflict; rather, high power was associated with a stronger link between conflict processing and intended action, relative to low power. These findings suggest a new perspective on how social factors can affect controlled processing and offer new evidence regarding the transition between conflict detection and the implementation of action control.

Keywords: social power, control, conflict, goals, event-related potential (ERP)

"More punk, less hell" was the slogan of Jón Gnarr's *Best Party* that governed Reykjavik for 4 years. Gnarr, an Icelandic comedian, antipolitician, and former punk, won the 2010 mayoral election with campaign promises of free towels at swimming pools and a polar bear for the zoo. Known by many as a drifter with a troubled past, his skeptics predicted the worst. But once in power, Gnarr thrived—his handling of the city's economic practices allowed it to survive and prosper during a major financial crisis. Power appeared to galvanize Gnarr's ability to act effectively in pursuing high-level goals.

Sensational as it may be, Gnarr's story is consistent with research on how power affects action and goal pursuit. Indeed, power has been associated with more effective goal prioritization (Guinote, 2008; Joshi & Fast, 2013; Slabu & Guinote, 2010) and goal-directed action (Guinote, 2007b), and thus while power can sometimes be abused (e.g., Blader & Chen, 2012; Fiske, 1993; Kipnis, 1972), it often promotes effective action (e.g., Keltner, Gruenfeld, & Anderson, 2003). However, the specific psychological mechanisms through which this occurs remain unclear. Some theorizing suggests that power aids goal-directed action by enhancing cognitive control (Magee & Smith, 2013). By contrast, other theorizing suggests that high power is associated with a greater reliance on automatic processing whereas low power is associated with greater control (Keltner et al., 2003). In the present research, we examined these alternatives in an effort to illuminate the mechanisms through which high and low power affect goal-directed behavior.

Power and Goal-Directed Behavior

Power is a ubiquitous social phenomenon characterized by having influence over people and resources (Keltner et al., 2003), and the feeling of power has been shown to strengthen people's ability to effectively select and pursue their goals (Guinote, 2007b, 2008; Joshi & Fast, 2013). In particular, power is thought to enhance performance in situations involving response conflict, such as when a desired response requires an individual to override a countervailing impulse or distraction. In research supporting this idea, manipulated high power, relative to low power, was associated with greater goal focus and performance in the presence of distractors on a variety of response conflict tasks (Guinote, 2007a; Smith, Jostmann, Galinsky, & van Dijk, 2008). Although these findings point to an effect of power on control, the specific processes modulated by power—enhanced controlled processing or reduced automatic bias—have not been precisely determined.

To the extent that power does enhance control, it may do so in different ways. Cognitive control is known to involve at least two components: conflict processing (i.e., conflict detection and monitoring) and response implementation (Botvinick, Braver, Barch, Carter, & Cohen, 2001). The conflict processing component functions to detect the need for control by monitoring for conflict between one's desired response and an alternative tendency. When conflict is detected, a regulative process is recruited to enhance the activation of goal representations and their top-down implementation in behavior. A large body of cognitive and social neuroscience findings have distinguished these processes, linking conflict processing to activity in the anterior cingulate cortex (Amodio et al., 2004; Bartholow, 2010; Carter et al., 1998; Dehaene, Posner,

---

Petra C. Schmid , Department of Psychology, New York University; Tali Kleiman, Department of Psychology, Hebrew University of Jerusalem; David M. Amodio, Department of Psychology, New York University.

Correspondence concerning this article should be addressed to Petra C. Schmid or David M. Amodio, Department of Psychology, New York University, 6 Washington Place, New York, NY 10003. E-mail: pcs308@nyu.edu or david.amodio@nyu.edu

& Tucker, 1994) and the regulative function to regions of the PFC (Amodio, 2010; Bartholow, Dickter, & Sestir, 2006; Kerns et al., 2004). Although high power has been shown to enhance behavioral performance on response conflict tasks, relative to low power, it remains unclear whether power sensitizes an individual to conflict or aids in the transition from conflict to action. In other words: Does power increase one's sensitivity to the need for control? Or does power facilitate the implementation of control once the need is detected? Botvinick et al.'s (2001) two-component model of control provides a theoretical basis for these alternative possibilities, and the cognitive neuroscience literature suggests a methodological approach for testing it.

The present research was designed to illuminate the processes through which power influences response control. Our first goal was to test whether power effects on performance are due to an influence on automatic and/or controlled processes (Study 1). Because high power is known to facilitate successful goal pursuit (e.g., Guinote, 2007b)—a process that is widely assumed to be associated with controlled processing (e.g., Fishbach & Shah, 2006; Metcalfe & Mischel, 1999)—we expected that high power, relative to low power, would enhance controlled processing rather than reduce automatic processing. The second goal of this research was to test two alternative hypotheses concerning the process through which power enhances control. Specifically, we examined whether power enhances the processing of conflict or the transition from conflict to action (Study 2).

Study 1

Study 1 examined whether power facilitates goal-directed responding by enhancing controlled processing or by reducing automatic response biases. To this end, we tested the effect of manipulated power on performance on the flanker task (Eriksen & Eriksen, 1974), a well-established response conflict paradigm. Using the process dissociation procedure (PDP; Jacoby, 1991), we compared the effect of power on independent estimates of automatic and controlled processing.

A control condition was also included to help disambiguate effects of high and low power. It is notable that most previous studies examining power effects on goal focus and pursuit have not included a control group, yet findings are typically interpreted as reflecting the influence of high power. However, there is some evidence that low power may also drive goal-related effects, such that is was found to decrease goal focus compared to a control condition (Smith et al., 2008). In the present research, we did not have strong predictions regarding effects of power relative to the control condition, and our primary hypothesis concerned the relative effects of high versus low power.

Method

Participants. One hundred forty undergraduate students (79% female; Mean$_{\text{age}}$ = 19.65, SD_{age} = 2.18) participated in this study for course credit. Sample size was determined using G*Power. Effect size was estimated at .35 (based on previous research on power and response conflict; Smith et al., 2008), α-error probability was set on .05, and β-error probability on .05. According to this power analysis, a minimum of 108 participants was required. Upon meeting this goal, data collection continued until the end of the semester.

Procedure. Participants were randomly assigned to either a high-power, low-power, or control condition. Following the power manipulation, participants performed the flanker task and then completed a questionnaire assessing task perceptions[1] and demographic information.

Power manipulation. Power was manipulated through a retrospective priming procedure (Galinsky, Gruenfeld, & Magee, 2003) whereby participants wrote about a situation in which they had power over another person (high-power condition), a situation in which somebody else had power over them (low-power condition), or, in the control condition, their previous day's events.

Flanker task. The flanker task (Eriksen & Eriksen, 1974) was used as a measure of cognitive control. On each trial of this task, a letter string (e.g., HHH) was presented in the center of the computer screen, and the participant's goal was to identify the middle letter by pressing the 'H' or 'S' key on the computer keyboard. The flanker task contained two types of trials. On congruent trials, the middle letter (target) and the two letters flanking it (distractors) were mapped to the same response (HHH, SSS). On incongruent trials, the target and distractors were mapped to alternative, conflicting responses (HSH, SHS), and controlled processing is required to respond correctly to the target without being biased by the distractors (Botvinick, Nystrom, Fissell, Carter, & Cohen, 1999). Participants performed a total of 300 trials (150 congruent, 150 incongruent) in random order within a single block of trials. There were no practice trials and performance feedback was not given. There was no response deadline, but participants were instructed to respond as quickly and accurately as possible. This procedure was designed to facilitate an analysis of task accuracy, as opposed to reaction times (RTs), because accuracy patterns provide a clearer indication of response control and are compatible with a process dissociation (PD) analysis (Payne, 2001). Intertrial intervals were 1,000 ms. Task duration was approximately 10 minutes.

Participants' mean accuracy and RT scores were computed for congruent and incongruent flanker trials, excluding responses faster than 200 ms or slower than 1,000 ms (0.3% of trials across conditions; high power: 0.3%, low power: 0.4%, control: 0.3%). PD estimates were computed from accuracy scores to index controlled and automatic processing during task performance following Payne (2001):

---

[1] In both studies, participants indicated their current mood state on a single item using a 7-point scale (1 = *I feel very bad*, 7 = *I feel very good*). In addition, participants answered several questions regarding aspects of their task experience on a 5-point scale (1 = *do not agree at all*, 5 = *totally agree*). These included participants' motivation, interest, focus, stress, and perceived task difficulty; each was assessed with two items, except perceived difficulty, which was assessed with three items. In Study 1, there was a significant power condition effect on participants' mood, $F(2, 121) = 4.35$, $p = .01$, $\eta_p^2 = .07$, such that the low-power group ($M = 4.26$, $SD = 1.14$) reported feeling more negatively than both the control group ($M = 4.90$, $SD = 1.02$) and the high-power group ($M = 4.70$, $SD = 0.91$). In Study 2, the power effect on mood was not significant, $F(2, 87) = 0.35$, $p = .71$, $\eta_p^2 = .01$. When entering mood as a covariate to the analyses in Study 1 (where it was affected by power), the same effects, but stronger, were found compared with the analysis reported in the main text (e.g., the Power Condition × Flanker Congruency effect for accuracy rates was significant, $F(2, 120) = 3.44$, $p = .03$, $\eta_p^2 = .05$). In both studies power condition did not moderate responses to the measures of task experiences, $F\text{s} < 1.60$, $ps > .21$, $\eta_p^2 < .04$.

$$\text{Control} = \text{P (correct responses on congruent trials)}$$

$$- \text{ P (errors on incongruent trials)}$$

$$\text{Automatic} = \text{P (errors on incongruent trials)}/(1 - \text{Control})$$

Thus, PD-control scores represented the probability that responses matched the task goal without being biased by the distracting flankers. PD-automatic scores represented the probability that control failures were due to the biasing effect of distracting flankers.

Manipulation checks. Participants indicated the extent to which they felt *powerful, independent, entitled, dominant, influential, strong, submissive, constrained, dependent,* and *powerless* on a 5-point Likert scale (1 = *not at all*, 5 = *very much*). Scores on these 10 items were averaged to a *felt power* scale, with the latter four adjectives reverse-coded ($\alpha = .70$). Moreover, following past research (Anderson & Galinsky, 2006; Galinsky et al., 2003), the effectiveness of the power manipulation was determined by having two condition-blind coders rate participants' essays on content expressing powerful and powerless feelings (1 = *not at all*, 5 = *very much*). Interrater reliability was high for both the powerful ($r = .94$) and the powerless ($r = .93$) items for the first 30 participants. Coding of remaining participants was completed by a single coder.

Exclusions. Sixteen participants were excluded from analyses (five in the high-power condition, seven in the low-power condition, and four in the control condition): one participant fell asleep, two participants provided incomplete data, and 13 participants had extremely low accuracy rates (values exceeding the 1.5 interquartile range), suggesting that these participants failed to follow task instructions and their data were invalid. Indeed, inclusion of these data weakened the results and led to a failure to replicate previously reported effects of power on response control task performance (Guinote, 2007a; Smith et al., 2008). Moreover, reported felt power (i.e., the manipulation check) effects were very weak among participants excluded on the basis of low-accuracy responses, further suggesting that these participants were not compliant and thus did not provide valid data.

Results

Manipulation checks. An ANOVA testing the effect of power condition on felt power was significant, $F(2, 121) = 3.17$, $p = .05$, $\eta_p^2 = .05$. High-power participants felt significantly more powerful ($M = 3.42$, $SD = 0.52$) than low-power participants ($M = 3.17$, $SD = 0.46$), $t(121) = 2.38$, $p = .02$, $d = .43$. Control participants ($M = 3.36$, $SD = 0.48$) felt marginally more powerful than low-power participants, $t(121) = 1.86$, $p = .06$, $d = .34$, but did not differ from high-power participants, $t(121) = 0.52$, $p = .60$, $d = .09$.

Ratings of powerful and powerless essay content were correlated, $r(124) = -.46$, $p < .001$, and scores were averaged (with "powerless" ratings reverse-coded). The effect of power condition on essay content was significant, $F(2, 121) = 244.08$, $p < .001$, $\eta_p^2 = .74$. High-power participants expressed greater felt power ($M = 4.42$, $SD = 0.76$) than control participants ($M = 3.01$, $SD = 0.52$), who expressed greater felt power than low-power participants ($M = 1.50$, $SD = 0.50$); for all pairwise contrasts, $ts > 10.0$, $ps < .001$, $ds > 1.92$.

Accuracy and RT analyses. To test whether power influenced flanker task performance, accuracy and RT scores were submitted to separate 3 (Power Condition: low vs. high vs. control) × 2 (Flanker Congruency: congruent vs. incongruent) mixed-design ANOVAs. The analysis of accuracy revealed main effects of flanker congruency, $F(1, 121) = 200.19$, $p < .001$, $\eta_p^2 = .62$, replicating the typical pattern of greater accuracy on congruent trials, and of power, $F(2, 121) = 3.33$, $p = .04$, $\eta_p^2 = .05$. Importantly, these were qualified by a Power Condition × Flanker Congruency interaction, $F(2, 121) = 2.78$, $p = .06$, $\eta_p^2 = .04$ (see Figure 1). Simple effects revealed that power significantly affected accuracy on incongruent trials, $F(2, 121) = 3.47$, $p = .03$, $\eta_p^2 = .05$, but not on congruent trials, $F(2, 121) = 0.98$, $p = .38$, $\eta_p^2 = .02$, as expected. Planned pairwise tests of incongruent trial accuracy indicated that high-power participants ($M = .94$, $SD = .04$) were more accurate than low-power participants ($M = .92$, $SD = .04$), $t(121) = 2.61$, $p = .01$, $d = .47$, in line with our hypothesis that power increases performance on trials that require control. Control participants were intermediate ($M = .93$, $SD = .04$) and did not differ significantly from high-power, $t(121) = 1.06$, $p = .29$, $d = .19$, or low-power participants, $t(121) = 1.55$, $p = .12$, $d = .28$.

An a priori comparison of only the high- and low-power conditions produced a significant Power × Congruency interaction, $F(1, 81) = 4.90$, $p = .03$, $\eta_p^2 = .06$. This analysis provided a more direct test of our hypothesis that high power enhanced performance on a response conflict task relative to low power.

An analysis of RTs revealed a significant flanker congruency main effect, $F(1, 121) = 520.07$, $p < .001$, $\eta_p^2 = .81$, indicating faster responses to congruent trials ($M = 442.87$, $SE = 4.97$) than to incongruent trials ($M = 475.84$, $SE = 5.45$). The power condition main effect was not significant, $F(2, 121) = 0.39$, $p = .68$, $\eta_p^2 < .01$, nor was the interaction, $F(2, 121) = 0.24$, $p = .79$, $\eta_p^2 < .01$. This pattern is inconsistent with the possibility that power simply altered participants' focus on speed versus accuracy in task performance.

Process dissociation analyses. Next, to test our main question of whether power selectively modulates controlled processing as opposed to automatic processing, we examined power effects on PD estimates of control and automaticity. A one-way ANOVA

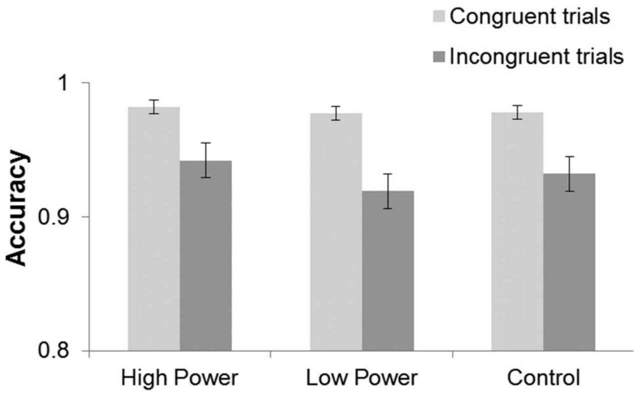

Figure 1. Study 1 accuracy rates on congruent and incongruent trials in the flanker task, presented as a function of power condition. Error bars represent 95% confidence intervals.

indicated an effect of power on PD-control, $F(2, 121) = 3.33$, $p = .04$, $\eta_p^2 = .05$. Planned contrasts revealed greater PD-control estimates for high-power participants ($M = .92$, $SD = .05$) than low-power participants ($M = .89$, $SD = .05$), $t(121) = 2.58$, $p = .01$, $d = .47$. The control group ($M = .91$, $SD = .05$) did not differ significantly from either the high-power, $t(121) = 1.24$, $p = .22$, $d = .22$, or low-power group, $t(121) = 1.33$, $p = .19$, $d = .24$. An analysis of PD-automatic scores did not reveal a significant effect of power condition, $F(2, 121) = 0.25$, $p = .78$, $\eta_p^2 < .01$. Hence, power was found to enhance controlled processing but did not affect automatic processing.

Discussion

The goal of Study 1 was to test whether power facilitates goal-directed behavior in the presence of distractors by enhancing controlled processing rather than by affecting automatic processing. First, conceptually replicating Smith et al. (2008), high-power participants performed equally well as low-power participants on congruent trials, but they outperformed low-power participants on incongruent trials. Importantly, process-dissociation analysis revealed that this effect was associated with greater controlled processing in high-power compared with low-power participants. These groups did not significantly differ with respect to automatic processing. This suggests that high- and low-power participants were equally responsive to automatic influences of distracting stimuli, but high-power participants were better at exerting intentional, top-down control in their response than low-power participants.

It was notable that control participants' performance fell between high- and low-power participants, not differing significantly from either. This pattern suggests that both high- and low-power manipulations may have contributed to the effect. Although this commonly used control condition was equated on procedural aspects of the manipulations (i.e., essay writing), it differed from the experimental conditions on an important aspect: Whereas the high-power and low-power essays focused on a social situation, the control essay did not (see Magee & Smith, 2013 for a similar point). Thus, while the pattern of the control condition was suggestive, we interpret it with caution, with our main conclusions focused on the relative difference between high- and low-power conditions.

Given research suggesting that controlled processing, as determined from behavior, may reflect two different processes (Botvinick et al., 2001), the finding that high power enhanced controlled processing raises new questions regarding the specific nature of this effect. That is, greater response control could reflect increased sensitivity to conflict between a biased tendency and one's task goal (Amodio et al., 2004), or it could reflect the process of implementing an intended response following conflict detection (Amodio, 2010; cf. Sherman et al., 2008). In other words, power may affect controlled processing by enhancing sensitivity to conflict or by facilitating the transition from conflict to action.

Study 2

In Study 2, ERP methods were used to investigate the role of conflict processing in the effect of power on control. We tested two alternative hypotheses. Specifically, we tested whether high power, compared with low power, facilitates controlled processing because it (a) enhances the detection of conflict and/or (b) increases the ability to translate conflict detection into intended action. Again, a control condition was included to clarify the relative contribution of high and low power to the effect.

ERP measures have been used successfully to track conflict-related activity of the anterior cingulate cortex (ACC) on a trial-by-trial basis during response conflict tasks (van Veen & Carter, 2002), and this index of ACC activity has been linked to performance on such tasks (Gehring, Goss, Coles, Meyer, & Donchin, 1993), including estimates of PD-control (Amodio, Devine, & Harmon-Jones, 2008; Amodio et al., 2004). Following this past work, Study 2 was designed to assess conflict monitoring activity with the N2 component of the ERP locked to correct responses. The N2 is a negative-polarity ERP that is pronounced at frontocentral midline scalp sites. We focused on the N2 locked to correct responses (N2r; also called correct-response negativity (CRN) e.g., Amodio et al., 2008, or N2c, Pritchard, Shappell, & Brandt, 1991), rather than the stimulus-locked N2, because these responses are theoretically tied to response formation rather than stimulus processing and, as such, their onset varies with trial-by-trial response latencies (Nieuwenhuis, Yeung, van den Wildenberg, & Ridderinkhof, 2003; Ritter, Simson, Vaughan, & Friedman, 1979). Thus, it has been proposed that ACC-related conflict processing is more evident in the response-locked N2 (Nieuwenhuis et al., 2003; Folstein & van Petten, 2008). The N2r occurs approximately 100 ms before a behavioral response, just prior to the implementation of a response. This instantiation of the N2r component is conceptually similar to the more frequently examined error-related negativity (ERN) index of the ACC. But unlike the ERN, which represents processing due to a response error, the N2r indexes conflict processing that leads to a successfully controlled response (Amodio et al., 2008). As such, the N2r provides a measure of conflict-related ACC activity that is most directly relevant to our theoretical question.

Method

Participants. One hundred six undergraduate students (65.1% female, $\text{Mean}_{\text{age}} = 19.87$, $SD_{\text{age}} = 2.06$) participated in the study for course credit. Sample size and the data-collection stopping rule were determined as in Study 1.

Procedure. Participants were randomly assigned to the high-power, the low-power, or the control condition. After providing informed consent, participants were prepared for EEG recording. Following baseline EEG measures, power was manipulated (high vs. low power) using the mindset priming procedure as in Study 1. An additional control group did not write essays. All participants then performed the flanker task and completed questionnaires assessing task-related experiences (see Footnote 1), individual differences unrelated to the present analysis,[2] and demographics.

Flanker task. Minor adaptations were made to the flanker task used in Study 1: At the beginning of each trial, a fixation cross

---

[2] In Study 2, several trait measures were included at the very end of the experiment for reasons unrelated to the present study and are thus not discussed here. These included the behavior inhibition system and behavioral activation system scales (Carver & White, 1994), the 10-item personality inventory (Gosling, Rentfrow, & Swann, 2003), the social connectedness and social assurance scales (Lee & Robbins, 1995), as well as the mini-social-phobia inventory (Connor, Kobak, Churchill, Katzelnick, & Davidson, 2001).

appeared onscreen for 800 ms, followed by a flanker trial. Letter strings included five letters, and an even number of congruent (HHHHH, SSSSS) and incongruent (SSHSS, HHSHH) trials were performed, yielding 288 trials across six blocks. Responses exceeding 450 ms were followed by a "Too slow!" message; trials in which responses occurred within a 200–450 ms timeframe were considered valid (20% of all trials were excluded: 23% in the high-power condition, 17% in the control condition, and 20% in the control condition). Intertrial intervals were jittered (2,000 ms, 2,500 ms, or 3,000 ms) to allow for the deconvolution of ERP components. Participants' mean accuracy and RT scores were computed for valid congruent and incongruent trials, and PD estimates of control and automaticity were computed as in Study 1.

Manipulation check. Felt power was measured based on the same 10 adjectives as in Study 1 ($\alpha = .81$), and essays were rated by the same coder using the same scales as in Study 1.

EEG recording and processing. EEG was recorded from F7, F3, Fz, F4, F8, Fcz, Cz, CPz, P7, P3, Pz, P4, P8, and Oz with tin electrodes embedded in a nylon cap (ElectroCap, Eaton, OH), with a left earlobe reference ($\Omega < 5$k). Eye movements were recorded for use in artifact correction. Signals were amplified with a Neuroscan Synamps2 (El Paso, TX) with AC coupling, digitized at 1,000 Hz and passed through a 0.15–100 Hz online filter. Offline, EEG was rereferenced to average earlobes, submitted to regression-based blink correction, and filtered through a 1–15 Hz bandpass to isolate the N2r waveform. This bandpass reduced low-frequency voltage changes that impeded accurate baseline correction and helped to isolate the component of interest for accurate scoring (Yeung, Botvinick, & Cohen, 2004).

To quantify ERPs, we extracted 1,200 ms response-locked epochs starting 400 ms before response onset. Average voltage during a baseline period (400–200 ms prior to response onset) was subtracted from the entire epoch, and epochs representing congruent and incongruent trials were averaged separately. Following past research (e.g., Amodio et al., 2008), and based on visual inspection of the average waveform, the N2r was scored as the average amplitude at Fcz between 150 and 80 ms prior to response (for valid correct responses only).[3]

Exclusions. In total, data from 16 participants were excluded from analysis: two in the low-power condition, nine in the high-power condition, and five in the control condition. Five participants were excluded because they exceeded the response time window on more than 50% of trials. Eight participants had extremely low accuracy rates (i.e., values exceeding the 1.5 interquartile range), such that their task responses could not be considered valid, suggesting noncompliance. As would be expected, inclusion of these 13 participants weakened the previously established effect of power on overall task performance. EEG data from three participants were unusable, due to a malfunctioning earlobe sensor, which precluded the rereferencing of EEG data, a malfunctioning vertical eye sensor, which precluded blink correction, or extensive eye movement artifacts in the EEG data.

Results

Manipulation checks. Felt power ratings, as indexed by the adjective ratings, did not differ by condition, $F(2, 87) = 0.48$, $p = .62$, $\eta_p^2 = .01$, likely due to the relatively longer delay (~1 hour) between the power manipulation and this measure. However, essays completed immediately after the manipulation provided a more valid assessment. Ratings of powerful and powerless essay content correlated significantly, $r(58) = -.91$, $p < .001$, and a composite was computed, as in Study 1. Participants in the high-power condition expressed significantly more power ($M = 4.58$, $SD = 0.31$) than participants in the low-power condition ($M = 1.41$, $SD = 0.50$), $t(56) = 28.33$, $p < .001$, $d = 7.57$ (essays were not written in the control condition). The significant effect of power on essay content indicated that the manipulation was effective, even though the effect did not emerge in participants' explicit ratings of felt power.

Accuracy and RT analyses. As in Study 1, flanker task accuracy and RT scores were submitted to separate 3 (Power Condition: high vs. low vs. control) × 2 (Flanker Congruency: congruent vs. incongruent) mixed-factors ANOVAs. For accuracy, this analysis produced main effects for flanker congruency, $F(1, 87) = 258.99$, $p < .001$, $\eta_p^2 = .75$, and power condition, $F(2, 87) = 4.67$, $p = .01$, $\eta_p^2 = .10$, which were qualified by the expected interaction, $F(2, 87) = 2.94$, $p = .06$, $\eta_p^2 = .06$ (see Figure 2). As in Study 1, an a priori comparison of only the high and low power conditions was significant, $F(1, 56) = 4.48$, $p = .04$, $\eta_p^2 = .07$.

Simple effects analysis indicated that power condition significantly affected incongruent trial accuracy, $F(2, 87) = 3.98$, $p = .02$, $\eta_p^2 = .08$: high-power participants were more accurate on incongruent trials ($M = .88$, $SD = .08$) than both low-power ($M = .82$, $SD = .08$), $t(87) = 2.42$, $p = .02$, $d = .52$, and control participants ($M = .82$, $SD = .09$), $t(87) = 2.54$, $p = .01$, $d = .54$. The difference between low-power and control conditions was not significant, $t(87) = 0.13$, $p = .90$, $d = .03$. For congruent trial accuracy, an unanticipated marginal effect of power condition emerged, $F(2, 87) = 2.77$, $p = .07$, $\eta_p^2 = .06$, suggesting that high-power participants were more accurate on congruent trials ($M = .98$, $SD = .01$) than low-power participants ($M = .97$, $SD = .02$), $t(87) = 2.21$, $p = .03$, $d = .47$, and, marginally, than controls ($M = .97$, $SD = .02$), $t(87) = 1.89$, $p = .06$, $d = .40$. The difference between the low-power group and the control group was not significant, $t(87) = 0.30$, $p = .76$, $d = .06$. However, the presence of the interaction indicated that the effect of power on incongruent trials emerged beyond the effect on congruent trials.

As in Study 1, the RT analysis revealed a main effect for flanker congruency, $F(1, 87) = 250.22$, $p < .001$, $\eta_p^2 = .74$, indicating faster responses on congruent trials ($M = 358.48$, $SE = 1.84$) than on incongruent trials ($M = 383.09$, $SE = 1.73$), as well as nonsignificant effects for power, $F(2, 87) = 0.32$, $p = .73$, $\eta_p^2 < .01$, and the interaction, $F(2, 87) = 1.83$, $p = .17$, $\eta_p^2 = .04$. This pattern was not surprising given the response deadline and resulting restricted range of response latencies (Payne, 2001).

Process dissociation analyses. Further replicating Study 1, analysis of PD-control estimates produced an effect of power, $F(2,$

---

[3] We used a 1 Hz high-pass filter to remove the contribution of slow parietal voltage deflections that may obscure the N2r effects of interest (Yeung et al., 2004). Indeed without this high-pass filter, N2r amplitudes were shifted to positive values, and although all results showed the same patterns, they were slightly weaker (i.e., the Power Condition × N2r interaction remained significant, but simple slope effects became marginal). Additionally, because much existing research has used peak scoring, peak negative values were also scored within the same 150 and 80 ms prior to response timeframe. Results for N2r average amplitudes and peak amplitudes were nearly identical.

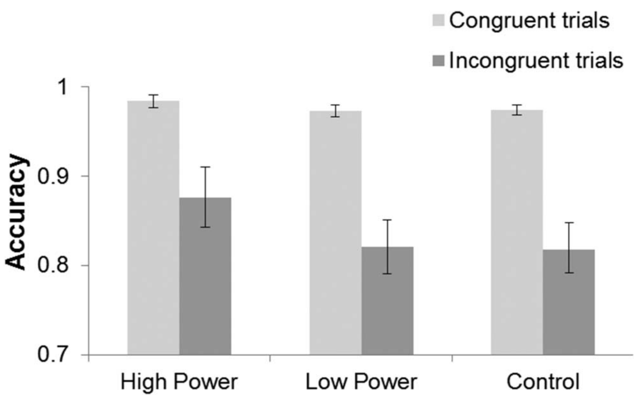

Figure 2. Study 2 accuracy rates on congruent and incongruent trials on the flanker task, presented as a function of power condition. Error bars represent 95% confidence intervals.

87) = 4.67, p = .01, η_p^2 = .10, indicating greater PD-control among high-power participants (M = .86, SD = .10) than both low-power participants (M = .79, SD = .09) and controls (M = .79, SD = .10), ts > 2.67, ps < .01, ds > .57. Low-power participants and controls did not differ significantly, $t(87)$ = 0.05, p = .96, d = .01. Power condition did not significantly affect PD-automatic scores, $F(2, 86)$ = 0.11, p = .90, $\eta_p^2 < .01$.

Power effects on conflict processing. The main goal of Study 2 was to investigate the role of conflict processing and its relation to behavioral control as possible mechanisms underlying the effect of power on goal-directed behavior. First, we tested whether high- and low-power participants differed in their degree of conflict sensitivity, as indexed by N2r average amplitudes. N2r amplitudes were submitted to a 3 (Power Condition: high vs. low vs. control) × 2 (Flanker Congruency: congruent vs. incongruent) mixed-factors ANOVA. A highly significant effect of congruency on N2r amplitudes emerged (see Figure 3), validating our interpretation of the N2r as being sensitive to response conflict: incongruent trials, which induced response conflict, evoked larger N2r scores than congruent trials, which did not induce conflict, $F(1, 87) = 62.19$, $p < .001$, $\eta_p^2 = .42$. However, neither the power main effect ($F(2, 87) = 1.61$, p = .20, η_p^2 = .04) nor the interaction was significant ($F(2, 87) = 0.39$, p = .68, $\eta_p^2 < .01$). Hence, the possibility that power modulates neural sensitivity to conflict was not supported (see Table 1 for means and SDs).

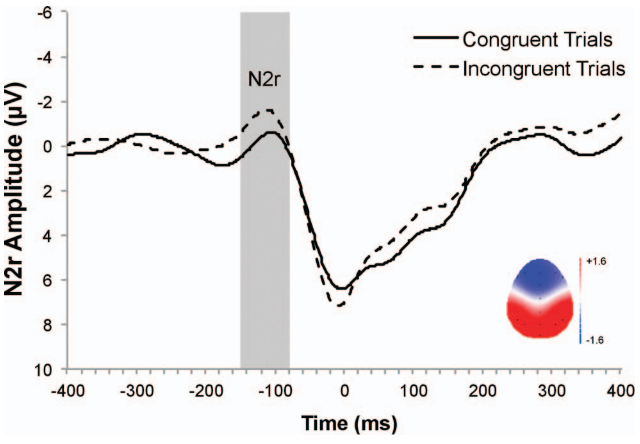

Figure 3. N2r waveforms associated with congruent and incongruent trials. Zero ms on the x-axis represents response onset. Voltage map (inset) illustrates peak N2r amplitude in the frontocentral region. See the online article for the color version of this figure.

Power effects on the conflict–action link. Next, we tested the hypothesis that power facilitates the relationship between conflict processing and response implementation. In order to compare the magnitude of this relationship between the three conditions directly, it was necessary to use a contrast codes approach appropriate for a design that includes a between-subjects factor with three categorical levels. This 2-df design permits the inclusion of two orthogonal contrasts. One contrast tested our central hypothesis, comparing the N2r-behavior relationship between high- and low-power conditions. The remaining orthogonal contrast compared the control condition with the combination of high- and low-power conditions. The regression model therefore included these two contrasts, N2r amplitude, and the two N2r × Contrast interaction terms. Effects of this model were tested on two outcomes: accuracy on incongruent trials and PD-control estimates.

As expected, the N2r-behavior relationship did not differ between the control condition and the combined high/low-power conditions, $\beta = .13$, $t = 1.24$, $p = .22$. More importantly, given our core interests, a difference in the N2r-behavior relationship was found between high- and low-power conditions: A significant Power Condition × N2r interaction ($\beta = -.24$, $t = 2.39$, $p = .02$, Figure 4) indicated an association between N2r amplitude and response accuracy for high-power participants, ($\beta = -.35$, $t = 2.05$, $p = .04$), but not for low-power participants ($\beta = .27$, $t = 1.56$, $p = .12$, suggesting a nonsignificant trend in the opposite direction). The simple slope for control participants revealed a nonsignificant trend such that conflict processing facilitated accuracy ($\beta = -.32$, $t = 1.54$, $p = .13$).

In the analysis of PD-control scores, the N2r-behavior relationship did not differ between the control condition and the combined high/low-power conditions, $\beta = .13$, $t = 1.32$, $p = .19$. However, a significant Power Condition × N2r interaction emerged, $\beta = -.22$, $t = 2.17$, $p = .03$, indicating that N2r amplitudes were associated with PD-control scores for high-power participants ($\beta = -.33$, $t = 1.93$, $p = .06$) but not low-power participants ($\beta = .24$, $t = 1.39$, $p = .17$). Again, the simple slope for control participants revealed a trend ($\beta = -.34$, $t = 1.64$, $p = .10$). Together, these results suggest that high power facilitated control by enhancing the link between conflict detection and intended

Table 1
Means and Standard Deviations (in Parentheses) for Mean N2r Amplitudes on Congruent and Incongruent Trials, as a Function of Power Condition

	Congruent trials	Incongruent trials
High power	−0.97 (0.59)	−2.53 (0.59)
Low power	−0.44 (0.53)	−2.28 (0.53)
Control	0.25 (0.53)	−1.17 (0.53)

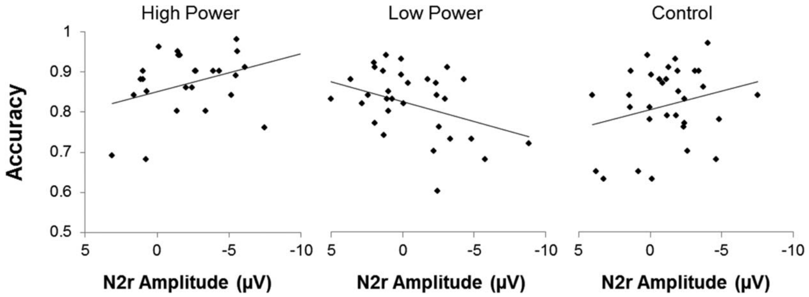

Figure 4. Power condition moderated the link between N2r amplitude and accuracy on incongruent trials. More negative N2r values indicate larger amplitudes.

action, whereas this link was not evident in the low-power condition.[4]

Discussion

The goal of Study 2 was to examine the specific manner in which power enhances controlled processing. First, it is notable that Study 2 replicated the behavioral findings of Study 1: High-power participants exhibited greater controlled processing than both low-power and control participants, whereas low power and control participants did not differ. Second, and more importantly, we tested whether the effect of power on controlled processing observed in Study 1 reflected an increase in conflict sensitivity or a stronger relation between conflict processing and action control. Results demonstrated that high- and low-power participants did not differ in their sensitivity to response conflict, as indicated by N2r amplitudes to incongruent flanker trials; rather, high power enhanced the association between conflict processing and the successful implementation of action control, relative to low-power. Thus, it appears that power increased action control by strengthening the critical link between conflict processing and action implementation.

General Discussion

What allows high-power people to pursue their goals more effectively than low-power people? Our findings suggest that power aids controlled processing, such that it helps people to transition from conflict detection to action. Although power provides resources and opportunities (Keltner et al., 2003), successful goal pursuit also requires the ability to focus on a goal and to pursue it effectively. The present research elucidates the cognitive mechanisms through which power promotes goal pursuit. Study 1 demonstrated that while high- and low-power participants were equally susceptible to the automatic influences of distractors, high-power participants exhibited greater controlled processing than low-power participants. Study 2 probed the effects of power on controlled processing further, using an ERP index of neural conflict processing, and showed that while power did not significantly alter participants' sensitivity to response conflict, it strengthened the crucial link between conflict processing and response implementation. These results suggest that high-power participants, but not low-power participants, were able to successfully transition from conflict to goal-directed action.

Our results provide direct evidence for the proposal that high power enhances controlled processing relative to low power (Magee & Smith, 2013). Moreover, we found that power affects control in a particular way: rather than altering individuals' sensitivity to response conflict, as may be suggested by existing theoretical perspectives on power (Hirsh, Galinsky, & Zhong, 2011; Keltner et al., 2003), power appeared to enhance the link between conflict processing and the implementation of intended action. This aspect of controlled processing represents the critical link between its two main components (i.e., conflict detection and response implementation). Although this link has received little attention in prior research (see also Amodio, Kubota, Harmon-Jones, & Devine, 2006), we believe that it underscores an important characteristic of powerful individuals, such that they are able to pivot effectively from deliberation to action. Low power, by comparison, may disrupt this cognitive control pathway. These findings present a new theoretical perspective on how power affects control, offering a more precise account of how this effect

---

[4] As outlined in the introduction to Study 2, this research was designed to test hypotheses concerning response conflict processing and not stimulus processing, and response-related processes correspond more closely to response time rather than stimulus onset. For this reason, we focused on the response-locked N2r rather than the more commonly examined stimulus-locked N2. Here, we report supplementary analyses of the stimulus-locked N2 (scored as the average amplitude at Fcz between 210 and 330 ms following stimulus onset). Stimulus-locked N2 amplitudes exhibited the expected flanker congruency effect, $F(1, 87) = 77.55$, $p < .001$, $\eta_p^2 = .47$, with larger N2 amplitudes to incongruent ($M = -2.14$, $SD = 2.78$) than to congruent trials ($M = -0.54$, $SD = 2.86$). The power condition main effect, $F(2, 87) = 0.61$, $p = .54$, $\eta_p^2 = .01$, and the Power Condition × Flanker Congruency interaction were nonsignificant, $F(2, 87) = 0.79$, $p = .45$, $\eta_p^2 = .02$, as with the N2r. The effect of power on the association between the N2 and behavior was marginal, for both incongruent trial accuracy, $\beta = -.18$, $t = -1.76$, $p = .08$, and PD-control scores, $\beta = -.19$, $t = -1.87$, $p = .06$. However, simple slopes for incongruent trial accuracy were nonsignificant within all conditions: high-power participants, $\beta = -.21$, $t = -1.18$, $p = .24$; low-power participants, $\beta = .26$, $t = 1.50$, $p = .14$; controls, $\beta = .01$, $t = 0.03$, $p = .98$. For PD-control estimates, a marginally significant slope emerged for low-power participants, $\beta = .30$, $t = 1.78$, $p = .08$, but not for high-power participants $\beta = -.20$, $t = -1.12$, $p = .26$, and controls, $\beta = .02$, $t = 0.12$, $p = .91$. Thus, as proposed and expected, the better predictive validity of the N2r relative to the stimulus-locked N2 is consistent with idea that the response-locked scoring better captures the construct of interest. These analyses further highlight the potential importance of distinguishing between the stimulus-locked and response-locked N2 in research on cognitive control.

on control contributes to goal pursuit and action orientation (Galinsky et al., 2003; Guinote, 2007b).

Relative Contributions of High and Low Power

Although our theoretical interests concerned the relative effects of high and low power on response control, the inclusion of a control condition in these studies may offer some insight into whether high power enhances control or low power diminishes it. In Study 1, the degree of controlled processing in the control condition fell between that of high-power and low-power conditions, not differing significantly from either, suggesting that high and low power may each have opposing effects on control. However, in Study 2, high power increased levels of controlled processing compared with both the low-power and control conditions, corroborating the effect of high power in Study 1 but not the effect of low power. This inconsistency in the role of low power could be due to the different control conditions used in the two studies and thus should be interpreted with caution. Regarding the relationship between conflict detection and action control, the control condition again produced an intermediate result that, in this case, was more similar to high-power participants. Hence, it is possible that while the conflict–action link is enhanced for high-power individuals, it is notably disrupted for low-power individuals. These possibilities point to the need for future research to more clearly discern the respective effects of high power and low power—an issue that has, to date, received relatively little attention.

Implications for Theories of Power

There has been considerable debate in the power literature regarding the way in which power influences automaticity and control. Our results are generally consistent with the social distance theory of power that suggests that power increases the prioritization of superordinate goals through a controlled process (Magee & Smith, 2013). Our findings may, on the surface, appear inconsistent with the approach/inhibition theory of power (Keltner et al., 2003), which links high power to disinhibition and, by extension, a greater reliance on automatic processing and reduced reliance on controlled processing. However, a closer consideration suggests that power-disinhibition effects may actually comport with our findings. That is, although research has shown that powerful people feel unburdened by social constraints (e.g., Bargh, Raymond, Pryor, & Strack, 1995; Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008; Lammers, Stapel, & Galinsky, 2010), it is possible that, in those studies, high-power individuals actually engaged greater control regarding an egocentric goal while disregarding an alternative goal of following social norms. Hence, our results suggest a potential synthesis of existing theories of how power affects automatic and controlled processes in the context of goal pursuit.

More broadly, our findings advance knowledge on the neurocognitive mechanisms of control. In this domain, much prior research has shown that conflict processing is an important step in the initiation of a controlled response (Botvinick et al., 2001). However, few studies have addressed potential factors that modulate either conflict processing or the critical conflict–action link. Our results offer new evidence that social power affects the relation between an ACC-index of conflict processing and controlled behavior, and they suggest that the conflict–action link may represent a key point at which social factors, such as power, may influence control.

References

Amodio, D. M. (2010). Coordinated roles of motivation and perception in the regulation of intergroup responses: Frontal cortical asymmetry effects on the P2 event-related potential and behavior. *Journal of Cognitive Neuroscience, 22,* 2609–2617. http://dx.doi.org/10.1162/jocn.2009.21395

Amodio, D. M., Devine, P. G., & Harmon-Jones, E. (2008). Individual differences in the regulation of intergroup bias: The role of conflict monitoring and neural signals for control. *Journal of Personality and Social Psychology, 94,* 60–74. http://dx.doi.org/10.1037/0022-3514.94.1.60

Amodio, D. M., Harmon-Jones, E., Devine, P. G., Curtin, J. J., Hartley, S. L., & Covert, A. E. (2004). Neural signals for the detection of unintentional race bias. *Psychological Science, 15,* 88–93. http://dx.doi.org/10.1111/j.0963-7214.2004.01502003.x

Amodio, D. M., Kubota, J. T., Harmon-Jones, E., & Devine, P. G. (2006). Alternative mechanisms for regulating racial responses according to internal vs external cues. *Social Cognitive and Affective Neuroscience, 1,* 26–36. http://dx.doi.org/10.1093/scan/nsl002

Anderson, A., & Galinsky, A. D. (2006). Power, optimism, and risk-taking. *European Journal of Social Psychology, 36,* 511–536. http://dx.doi.org/10.1002/ejsp.324

Bargh, J. A., Raymond, P., Pryor, J. B., & Strack, F. (1995). Attractiveness of the underling: An automatic power→sex association and its consequences for sexual harassment and aggression, *Journal of Personality and Social Psychology, 68,* 768–781. http://dx.doi.org/10.1037/0022-3514.68.5.768

Bartholow, B. D. (2010). On the role of conflict and control in social cognition: Event-related brain potential investigations. *Psychophysiology, 47,* 201–212. http://dx.doi.org/10.1111/j.1469-8986.2009.00955.x

Bartholow, B. D., Dickter, C. L., & Sestir, M. A. (2006). Stereotype activation and control of race bias: Cognitive control of inhibition and its impairment by alcohol. *Journal of Personality and Social Psychology, 90,* 272–287.

Blader, S. L., & Chen, Y.-R. (2012). Differentiating the effects of status and power: A justice perspective. *Journal of Personality and Social Psychology, 102,* 994–1014. http://dx.doi.org/10.1037/a0026651

Botvinick, M. M., Braver, T. S., Barch, D. M., Carter, C. S., & Cohen, J. D. (2001). Conflict monitoring and cognitive control. *Psychological Review, 108,* 624–652. http://dx.doi.org/10.1037/0033-295X.108.3.624

Botvinick, M., Nystrom, L. E., Fissell, K., Carter, C. S., & Cohen, J. D. (1999). Conflict monitoring versus selection-for-action in anterior cingulate cortex. *Nature, 402,* 179–181. http://dx.doi.org/10.1038/46035

Carter, C. S., Braver, T. S., Barch, D. M., Botvinick, M. M., Noll, D., & Cohen, J. D. (1998). Anterior cingulate cortex, error detection, and the online monitoring of performance. *Science, 280,* 747–749. http://dx.doi.org/10.1126/science.280.5364.747

Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology, 67,* 319–333. http://dx.doi.org/10.1037/0022-3514.67.2.319

Connor, K. M., Kobak, K. A., Churchill, L. E., Katzelnick, D., & Davidson, J. R. (2001). Mini-SPIN: A brief screening assessment for generalized social anxiety disorder. *Depression and Anxiety, 14,* 137–140. http://dx.doi.org/10.1002/da.1055

Dehaene, S., Posner, M. I., & Tucker, D. M. (1994). Localization of a neural system for error detection and compensation. *Psychological Science, 5,* 303–305. http://dx.doi.org/10.1111/j.1467-9280.1994.tb00630.x

Eriksen, B. A., & Eriksen, C. W. (1974). Effects of noise letters upon identification of a target letter in a nonsearch task. *Perception & Psychophysics, 16,* 143–149. http://dx.doi.org/10.3758/BF03203267

Fishbach, A., & Shah, J. Y. (2006). Self-control in action: Implicit dispositions toward goals and away from temptations. *Journal of Personality and Social Psychology, 90,* 820–832.

Fiske, S. T. (1993). Controlling other people. The impact of power on stereotyping. *American Psychologist, 48,* 621–628. http://dx.doi.org/10.1037/0003-066X.48.6.621

Folstein, J. R., & Van Petten, C. (2008). Influence of cognitive control and mismatch on the N2 component of the ERP: A review. *Psychophysiology, 45,* 152–170. http://dx.doi.org/10.1111/j.1469-8986.2007.00602.x

Galinsky, A. D., Gruenfeld, D. H., & Magee, J. C. (2003). From power to action. *Journal of Personality and Social Psychology, 85,* 453–466. http://dx.doi.org/10.1037/0022-3514.85.3.453

Galinsky, A. D., Magee, J. C., Gruenfeld, D. H., Whitson, J. A., & Liljenquist, K. A. (2008). Power reduces the press of the situation: Implications for creativity, conformity, and dissonance. *Journal of Personality and Social Psychology, 95,* 1450–1466. http://dx.doi.org/10.1037/a0012633

Gehring, W. J., Goss, B., Coles, M. G. H., Meyer, D. E., & Donchin, E. (1993). A neural system for error detection and compensation. *Psychological Science, 4,* 385–390. http://dx.doi.org/10.1111/j.1467-9280.1993.tb00586.x

Gosling, S. D., Rentfrow, P. J., & Swann, W. B., Jr. (2003). A very brief measure of the Big Five personality domains. *Journal of Research in Personality, 37,* 504–528. http://dx.doi.org/10.1016/S0092-6566(03)00046-1

Guinote, A. (2007a). Power affects basic cognition: Increased attentional inhibition and flexibility. *Journal of Experimental Social Psychology, 43,* 685–697. http://dx.doi.org/10.1016/j.jesp.2006.06.008

Guinote, A. (2007b). Power and goal pursuit. *Personality and Social Psychology Bulletin, 33,* 1076–1087. http://dx.doi.org/10.1177/0146167207301011

Guinote, A. (2008). Power and affordances: When the situation has more power over powerful than powerless individuals. *Journal of Personality and Social Psychology, 95,* 237–252. http://dx.doi.org/10.1037/a0012518

Hirsh, J. B., Galinsky, A. D., & Zhong, C.-B. (2011). Drunk, powerful, and in the dark: How general processes of disinhibition produce both prosocial and antisocial behavior. *Perspectives on Psychological Science, 6,* 415–427. http://dx.doi.org/10.1177/1745691611416992

Jacoby, L. L. (1991). A process dissociation framework: Separating automatic from intentional uses of memory. *Journal of Memory and Language, 30,* 513–541. http://dx.doi.org/10.1016/0749-596X(91)90025-F

Joshi, P. D., & Fast, N. J. (2013). Power and reduced temporal discounting. *Psychological Science, 24,* 432–438. http://dx.doi.org/10.1177/0956797612457950

Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological Review, 110,* 265–284.

Kerns, J. G., Cohen, J. D., MacDonald, A. W., III, Cho, R. Y., Stenger, V. A., & Carter, C. S. (2004). Anterior cingulate conflict monitoring and adjustments in control. *Science, 303,* 1023–1026. http://dx.doi.org/10.1126/science.1089910

Kipnis, D. (1972). Does power corrupt? *Journal of Personality and Social Psychology, 24,* 33–41. http://dx.doi.org/10.1037/h0033390

Lammers, J., Stapel, D. A., & Galinsky, A. D. (2010). Power increases hypocrisy: Moralizing in reasoning, immorality in behavior. *Psychological Science, 21,* 737–744. http://dx.doi.org/10.1177/0956797610368810

Lee, R. M., & Robbins, S. B. (1995). Measuring belongingness: The social connectedness and the social assurance scales. *Journal of Counseling Psychology, 42,* 232–241. http://dx.doi.org/10.1037/0022-0167.42.2.232

Magee, J. C., & Smith, P. K. (2013). The social distance theory of power. *Personality and Social Psychology Review, 17,* 158–186. http://dx.doi.org/10.1177/1088868312472732

Metcalfe, J., & Mischel, W. (1999). A hot/cool-system analysis of delay of gratification: Dynamics of willpower. *Psychological Review, 106,* 3–19. http://dx.doi.org/10.1037/0033-295X.106.1.3

Nieuwenhuis, S., Yeung, N., van den Wildenberg, W., & Ridderinkhof, K. R. (2003). Electrophysiological correlates of anterior cingulate function in a go/no-go task: Effects of response conflict and trial type frequency. *Cognitive, Affective, & Behavioral Neuroscience, 3,* 17–26. http://dx.doi.org/10.3758/CABN.3.1.17

Payne, B. K. (2001). Prejudice and perception: The role of automatic and controlled processes in misperceiving a weapon. *Journal of Personality and Social Psychology, 81,* 181–192. http://dx.doi.org/10.1037/0022-3514.81.2.181

Pritchard, W. S., Shappell, S. A., & Brandt, M. E. (1991). Psychophysiology of N200/N400: A review and classification scheme. In J. R. Jennings & P. K. Ackles (Eds.), Advances in psychophysiology: A research annual (Vol. 4, pp. 43–106). London: Jessica Kingsley.

Ritter, W., Simson, R., Vaughan, H. G., Jr., & Friedman, D. (1979). A brain event related to the making of a sensory discrimination. *Science, 30,* 1358–1361. http://dx.doi.org/10.1126/science.424760

Sherman, J. W., Gawronski, B., Gonsalkorale, K., Hugenberg, K., Allen, T. J., & Groom, C. J. (2008). The self-regulation of automatic associations and behavioral impulses. *Psychological Review, 115,* 314–335. http://dx.doi.org/10.1037/0033-295X.115.2.314

Slabu, L., & Guinote, A. (2010). Getting what you want: Power increases the accessibility of active goals. *Journal of Experimental Social Psychology, 46,* 344–349. http://dx.doi.org/10.1016/j.jesp.2009.10.013

Smith, P. K., Jostmann, N. B., Galinsky, A. D., & van Dijk, W. W. (2008). Lacking power impairs executive functions. *Psychological Science, 19,* 441–447. http://dx.doi.org/10.1111/j.1467-9280.2008.02107.x

van Veen, V., & Carter, C. S. (2002). The anterior cingulate as a conflict monitor: FMRI and ERP studies. *Physiology & Behavior, 77,* 477–482. http://dx.doi.org/10.1016/S0031-9384(02)00930-7

Yeung, N., Botvinick, M. M., & Cohen, J. D. (2004). The neural basis of error detection: Conflict monitoring and the error-related negativity. *Psychological Review, 111,* 931–959. http://dx.doi.org/10.1037/0033-295X.111.4.931

Received December 2, 2014
Revision received February 6, 2015
Accepted February 12, 2015 ■