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# From Power to Action

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Three experiments investigated the hypothesis that power increases an action orientation in the power holder, even in contexts where power is not directly experienced. In Experiment 1, participants who possessed structural power in a group task were more likely to take a card in a simulated game of blackjack than those who lacked power. In Experiment 2, participants primed with high power were more likely to act against an annoying stimulus (a fan) in the environment, suggesting that the experience of power leads to the performance of goal-directed behavior. In Experiment 3, priming high power led to action in a social dilemma regardless of whether that action had prosocial or antisocial consequences. The effects of priming power are discussed in relation to the broader literature on conceptual and mind-set priming.

> The realization of most societal goals, even in situations in which the actor's commitment and knowledge are considerable, requires the application of power. (Etzioni, 1968, p. 314)

In this statement, Etzioni (1968) suggests an intimate relationship between power and efficacious action. Whenever a display of action transforms the environment, power is surely lurking in the shadows as the precipitating and driving force. Action taken is often power exercised. We propose that power and action are indeed intimately and positively related, that the possession of power leads directly to the taking of action. In essence, power channels behavior toward accomplishing a specific goal. This proposition is consistent with a number of recent, apparently inconsistent, contributions to the literature on how power affects the power holder. For example, power has been shown to increase subordinate derogation (Georgesen & Harris, 1998, 2000) and the use of stereotypes (Goodwin, Gubin, Fiske, & Yzerbyt, 2000), but it also has been shown to increase the use of individuating information (Overbeck & Park, 2001). Power leads to displays of anger (Tiedens, 2000) and self-serving attributions (Kipnis, 1972), but it also leads to generosity in those who are already communally disposed (Chen, Lee-Chai, & Bargh, 2001).

In their recent review of the literature on power, Keltner, Gruenfeld, and Anderson (2003) argued that these apparent contradictions arise because power activates a general tendency to approach whereas powerlessness activates a general tendency to inhibit. If this is true, individuals with power should exhibit a greater action orientation than those without power, regardless of the social consequences of their acts.

In this article, we demonstrate empirically for the first time this relationship between power and action. Specifically, we show in Experiment 1 that those who possess power exhibit a greater proclivity to act than those who do not. We find in Experiment 2 that those who are primed with high power are more likely to act in a goal-consistent manner, that is, to act in ways that are consistent with desired end states, than are those who are primed with low power. Experiment 3 explores the social consequences of power-induced action and demonstrates that those who are primed with high power display greater action than those who are primed with low power or a control group, both when acting serves self-interest and when it serves the public interest. Thus, we find that power does not always lead to antisocial outcomes, but it can be the catalyst for achieving prosocial outcomes that might not otherwise be realized. Our studies demonstrate that power can be conceived not only as an aspect of social structure but also as a cognitive structure that can be activated by an appropriate environmental stimulus. Thus, the possession of power in one context can lead to action in an unrelated context. We use multiple manipulations of power and multiple operationalizations of action to support our claim that power leads directly to action.

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## What Is Power?

Our investigation coincides with a recent wave of interest in the social and psychological consequences of power (for reviews, see Fiske & Dépret, 1996; Keltner et al., 2003). Traditionally, scholars have emphasized power's *determinants*, including basic human motives (Nietzsche, 1888/1968; Hobbes, 1651/1968; Mulder, 1977); individual-difference variables such as authoritarianism (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950) and motivational style (Winter, 1973); interpersonal variables such as control (Pfeffer, 1992), dependence (Emerson, 1962; Mintzberg, 1983) and social exchange (Blau, 1964; Thibaut & Kelley, 1959); and sociostructural variables such as relative expertise and legitimate authority (French & Raven, 1959). Such accounts highlight the many paths to power and explain why some actors come by their power naturally whereas others do not. In contrast, we assume that power is experienced by most individuals at one time or another and that when it is experienced it has metamorphic effects (see also Kipnis, 1972, 1976). Specifically, we are interested in the psychological consequences of power for those who possess it (see also Fiske, 1993; Gruenfeld, Keltner, & Anderson, in press; Keltner et al., 2003; Sachdev & Bourhis, 1985, 1991).

We define power as the ability to control resources, own and others', without social interference (for related definitions, see Keltner et al., 2003; Thibaut & Kelley, 1959; Weber, 1947). Because those who possess power depend less on the resources of others than vice versa, the powerful are more easily able to satisfy their own needs and desires. In many conceptualizations of power, the capacity to influence and control the behaviors of others is paramount (Copeland, 1994; French & Raven, 1959; Imai, 1993; Manz & Gioia, 1983). This type of power has been called *social power* because power is derived through one's relationships to others (Fiske, 1993; see Overbeck and Park, 2001, for a distinction between personal power and social power). The notion of power as control over others typically is operationalized by having the person with power make decisions that determine the outcomes of some target, either by providing directions during a task, directly assigning resources to the target, or by simply evaluating the target (Copeland, 1994; Fiske & Dépret, 1996; Keltner et al., 2003; Sachdev & Bourhis, 1985). In this article, we focus on whether the possession and experience of social power—the capacity to control others' resources—impels individuals toward action.

## Power and Action

Why would possessing power lead an individual toward action? First, by definition, the powerful are less dependent on others than others are on them for acquiring and maintaining important social resources. Therefore, the powerful are not confronted with social interference and constraints, and thus they have potential increases in the opportunities for action. Second, power is said to activate the behavioral approach system, whereas the experience of powerlessness activates behavioral inhibition (Keltner et al., 2003). Consequently, those with power experience and express more positive affect (Keltner, Young, Heerey, Oemig, & Monarch, 1998) and less negative affect (Keltner et al., 2003), are more extraverted (Anderson, John, Keltner, & Kring, 2001), and show a heightened sensitivity to rewards and strategies for acquiring those rewards, while showing a decreased sensitivity to threats (Croizet & Claire, 1998; Zander & Forward, 1968). A distinguishing consequence of power appears to be disinhibition: Power allows the grip of social norms and standards to lose their hold on regulating behavior (Gruenfeld et al., in press). Consistent with this notion, high-power individuals engage in a wider range of behaviors and display greater interpersonal variability than do those placed in positions of low power (Guinote, Judd, & Brauer, 2002). One possible reason for this increased variability in behavior is that the expressive behavior of those with power is more likely to represent underlying feelings and personality than in those without power (Hecht & LaFrance, 1998).

Related to the increased propensity toward action, those with power also tend to show lower levels of deliberation. Studies of Supreme Court justices show that those with the most power (e.g., members of unanimous groups and Chief justices) are more single-minded (i.e., less cognitively complex) in their thinking about policy options than those with less power (e.g., members of majority factions who faced vocal dissent) who are more likely to weigh the pros and cons of various response choices (Gruenfeld, 1995; Gruenfeld & Kim, 2003). Also, as dominance orientation increases, the evaluations of target individuals become less complex, with impressions displaying less cognitive integration (Woike, 1994). In fact, the kind of deliberation associated with high cognitive complexity is often associated with the failure to act (Lerner & Tetlock, 1999). Action and deliberation, as James (1890) suggested, may be inherently incompatible. To act effectively, one must be freed from doubt (Gollwitzer, 1996; Moskowitz, Skurnik, & Galinsky, 1999), and power provides one mechanism to reduce deliberation and facilitate the taking of action.

In sum, these considerations suggest that possessing and experiencing power will reduce deliberation and increase the propensity to act. Most of the research linking power with approach tendencies is correlational and therefore subject to a number of alternative explanations (for a review, see Keltner et al., 2003). We wanted to demonstrate not simply that power and action are associated, but that power directly leads to action. Freed from social interference, thinking heuristically, experiencing approach-related emotions, and insensitive to lurking punishments and threats, the powerful should be prone to act.

## Power as a Psychological State

Power is often conceived of as a structural variable (Ng, 1980) and as a property of social relationships (Emerson, 1962). We argue that power can also become a psychological property of the individual. The experience of holding power in a particular situation generates a constellation of characteristics and propensities that manifest themselves in affect, cognition, and behavior (Keltner et al., 2003). We suggest that the concepts and behavioral tendencies associated with power are activated whenever the possession of power is implied, consciously or nonconsciously, in a new situation, or even when an experience with power is simply recalled. Because these propensities are stored in memory, they can be carried outside of the situation in which power was directly experienced.

The effects of activating the concept of power have been demonstrated by Bargh and his colleagues (Bargh, Raymond, Pryor, & Strack, 1995; Chen et al., 2001), who invoke the auto-motive model (Bargh, 1990) to explain how mental constructs—from

semantic constructs to goals—can be stored in memory and thus be subject to the principles of general construct activation. Whenever a goal or construct, such as power, is activated, associated concepts and behavioral tendencies are also activated. For example, Bargh et al. (1995) found that activating the concept of power through a word-fragment completion task led those with a predisposition toward sexual harassment to view women in sexual terms. For these men, power and sex were strongly associated, such that activating power automatically activated sexual desire. Similarly, we suggest that activating the concept of power should activate those behavioral tendencies associated with power.

Specifically, we claim that power and action are intimately associated such that activating the concept of power should increase the tendency toward action, even in contexts in which power is not directly possessed, applicable, or relevant. To test this idea, we used two different manipulations of power and a variety of dependent measures. One manipulation (Experiment 1) involved actually placing individuals in a hierarchical structure (i.e., as either a manager or a subordinate). The other manipulation of power (Experiments 2 and 3) involved having participants recall a time either in which they had power over another person or in which someone else had power over them. In each experiment, the manipulation of power was separated in both time and context from the action-based task. Thus, we hoped to show that activating the concept of power could have effects not only within the current situation but also in unrelated contexts. The measures of action in our studies included taking a card in a simulated blackjack game (Experiment 1), dealing with an annoying stimulus in the environment (Experiment 2), and acting on—both by taking from and giving to—a common social fund (Experiment 3). We hoped to show across multiple operationalizations of both power and action that the possession of power leads directly to the taking of action.

## Experiment 1: Hit Me!

To explore whether power leads to action, we placed participants into one of two structural positions within a hierarchy. Participants were either put into the role of a manager or a subordinate. The managers were told they were going to direct, evaluate, and reward the subordinates in a coordination task that involved building a Lego model. After assigning participants to the role of manager or subordinate, but before the Lego building task took place, participants took part in a simulated blackjack scenario (as part of an ostensibly separate experiment). In a game of blackjack, the dealer deals each player two cards facedown and deals him or herself two cards, one facedown and one faceup. A player can continue to ask for cards (to request a "hit") until he or she decides not to take any more cards (to "stand") or until the total of the cards exceeds 21 (and the player "busts"). The dealer, however, must hit if his or her total is 16 or fewer and must stand when the hand is 17 or higher. Thus, the player's goal is to accumulate more points than the dealer without busting. On the basis of the work of Miller and Taylor (1995), we chose for our blackjack game a particularly vexing situation in which the participants possessed a hand totaling 16 and the dealer's faceup card was a 10. In this situation, the player will lose the majority of the time, but their odds are increased when they take a card. As it turns out, this is the one situation in which professional blackjack players fail to maximize their chances of winning (Keren & Wagenaar, 1985); more than two thirds of professional players fail to take a card in this situation (Miller & Taylor, 1995, hypothesized that this occurs because players anticipate feeling more regret when they bust than when the dealer out-scores them).

Once participants were confronted with this situation, they were asked whether they wanted to take a card (to hit) or not (to stand). We hypothesized that those participants who were currently occupying a position of power and authority would be more likely to take a card than would those participants lacking structural power. Thus, possessing power would lead to action, even in a situation that was functionally irrelevant to their position of power.

### *Method*

#### *Participants*

Participants were 32 students and university staff (21 women and 11 men) who participated for payment of $15.

#### *Design and Procedure*

The experiment involved two conditions: high power (manager) and low power (subordinate). Participants arrived in groups of 2 or 3. Participants sat at a large table where they each completed a "Leadership Questionnaire" (Anderson & Berdahl, 2002). This questionnaire asked participants to report their grade point average, any leadership positions they had held, and a number of trait ratings about themselves.

*Power manipulation.* The procedure for manipulating positions of power was directly adapted from Anderson and Berdahl (2002). After completing the Leadership Questionnaire, the experimenter informed the participants that they would be doing a coordination task, and that the task required one person to be the manager and the other(s) to be the subordinate(s). The experimenter told them that their responses on the Leadership Questionnaire would be used to assign one of them to the role of manager. The experimenter then went to a table outside the room to mark the questionnaires with a red pen. In fact, the roles of manager and subordinate were randomly assigned before the participants arrived. Then, the experimenter came back into the room and announced which of the participants was selected to be the manager and asked that participant to come across the hall into a different room. There, the manager was given a description of the role and a bag of Legos. The experimenter informed this participant that, on the basis of their responses to the Leadership Questionnaire, he or she was best suited for the role of manager. The manager was given instructions that emphasized that he or she would have complete control over the work process, the evaluation of the subordinates, and the division of rewards. Specifically, the experimenter told the manager the following:

> As manager, you are in charge of directing the subordinates across the hall in building something called a Tanagram from a set of Legos. You will decide how to structure the process for building the Tanagram and the standards by which the work is to be evaluated. In addition, you will also evaluate the builders at the end of the session in a private questionnaire—that is, the builders will never see your evaluation. The builders will not have the opportunity to evaluate you. Your evaluation will determine how the bonus money, an amount of $15, will be divided between the builders and you. Thus, as a manager, you will be in charge of directing the building, evaluating your subordinates, and determining the rewards you and your subordinates will receive.

For those participants assigned to the role of subordinate, the experimenter emphasized that they would have no control over how the work was done, the evaluation process, or the division of resources. Specifically, the subordinates were told the following:

> As a builder, you will have the responsibility of carrying out the task of building a Tanagram according to instructions given to you by your manager. Your manager will call you in to give you instructions when ready. Your manager will decide how to structure the process for building the Tanagram and the standards by which the work is to be evaluated. Which tasks you complete will be decided by the manager. In addition, you will be evaluated by the manager at the end of the session. This evaluation will be private; that is, you will not see your manager's evaluation of you. These evaluations will help determine how the bonus money, an amount of $15, will be divided between the builder and the manager. You will not have an opportunity to evaluate your manager. Only the manager will be in charge of directing production, evaluating your performance, and determining the rewards you will receive.

The experimenter then told the subordinates that they needed to leave the room so that it could be prepared for building the Tanagram. The experimenter then led subordinates into the same room as the manager, where all participants were asked to sit at individual, divided cubicles. They were asked to complete a task on the computer that was described as a pretest for a future study while the experimenter set up the Tanagram task in the other room. In fact, the task was the simulated blackjack scenario.

*Action measure: Blackjack game.* Participants were told that they were at a blackjack table in Las Vegas. They were informed that the rules of blackjack dictate that whoever (the dealer or themselves) is closest to 21 without going over 21 (or busting) wins the hand. The participants' two cards totaled 16 and the dealer's faceup card (the dealer always has one card faceup and one card facedown) was a 10. The dealer (i.e., the computer) asked them, "Do you want to hit [i.e., take a card]?" Participants selected one of two buttons marked "Yes" and "No."

After completing the simulated blackjack scenario, the subordinates were led back into their original room and completed manipulation checks. The manager also completed manipulation checks. Then, the experimenter told the participants that they had run out of time, and that they would not be building the Tanagram. Finally, the experimenter informed participants that the Leadership Questionnaire had no known relationship with leadership ability and that the roles had been randomly assigned. Participants were paid and debriefed about the nature of the study before they left.

## Results

### Manipulation Checks

Participants were asked to rate how much they were in charge of directing the task, evaluating the other participants, allocating the $15, and to what extent they had power over the subordinates (or vice versa) on 7-point Likert-type scales ranging from 0 (*none/not at all*) to 6 (*a lot/very much*).[1] Reliability for these items was high ($\alpha = .94$), so they were averaged to form a power index. Managers experienced significantly more power ($M = 5.21$, $SD = 0.40$) than did the subordinates ($M = 1.43$, $SD = 1.22$), $t(27) = 10.31$, $p < .001$, which indicates that the manipulation of power was effective.

### Blackjack

We predicted that those participants who occupied a position of power would show a greater propensity to act and take a card in the simulated blackjack scenario compared with those who occupied a subordinate position. The chi-square test was significant, $\chi^2(1, N = 32) = 4.07$, $p = .04$. Ninety-two percent (12 of 13) of high-power participants elected to hit—to take a card—whereas only 58% (11 of 19) of low-power participants elected to hit. Furthermore, we investigated each condition's deviation from chance likelihood (.5) of taking a card. A nonparametric chi-square test showed that high-power participants significantly deviated from chance likelihood of taking a card, $\chi^2(1, N = 12) = 8.33$, $p < .01$, whereas low-power participants did not, $\chi^2(1, N = 19) < 1$.

One question that emerges from the results is whether it is the possession of power that increases the tendency toward action or whether it is subordination that is inhibiting action. To address this question, an additional 17 participants participated in the simulated blackjack scenario but in the absence of the power manipulation. The results of this baseline control condition were almost identical to the low-power condition, with only 59% of these control participants taking a card. High power participants were significantly more likely to take action at the blackjack table compared with these control participants, $\chi^2(1, N = 30) = 4.22$, $p = .04$. This comparison with a baseline control condition strongly suggests that it was the possession of power that increased the tendency to take action in the blackjack game rather than the lack of power inhibiting action.

## Discussion

The results of Experiment 1 support our hypothesis that possessing power in one context leads to action in a subsequent, unrelated context. Power led to action even when the position of power was functionally irrelevant to the blackjack game. Occupying a position of power, when it involved controlling the direction, evaluation, and rewarding of subordinates, led participants to take a card in a vexing blackjack situation.[2] Nearly all of the participants who possessed power took a card. Although we have no direct evidence that players calculated their exact odds, it turns out that taking a card in this situation increases the odds of winning (Keren & Wagenaar, 1985); power-induced action would, over time, increase the overall wealth that the powerful obtained.

One possible limitation of Experiment 1 involves the nature of our manipulation. Our manipulation of power, which is typical of traditional operationalizations of power (e.g., Anderson & Berdahl, 2002), involves requiring the powerful to make decisions that determine the outcomes of other people, either by providing directions during a task, controlling their access to resources, or by simply evaluating their performance. Such manipulations have the advantage of external validity, yet their rich social content introduces the possibility of a number of confounds. When individuals have direct control over another person, displays of action could

[1] The experimenter failed to collect these data during one session (3 participants). Therefore, the degrees of freedom for this analysis differ from the subsequent ones.

[2] One may note that our manipulation is not a pure manipulation of social power in that it also involves elements of personal power (because the managers' evaluations of the subordinates will also affect their own bonus). Thus, those in power have some control over both their own outcome and those of the subordinates. The bulk of the manipulation (coordinating and directing the work and evaluating others) is about controlling others, and thus social power is more strongly emphasized. Nonetheless, it is difficult to infer which of these elements, possessing control over one's own outcomes or having control over the outcomes of others, is responsible for the effects. Although social power often carries with it personal power, future research should explore the distinction between personal and social power.

result simply from role-prescribed behavior; people may interpret that they *should* act or that their position of power *requires* them to act, regardless of whether they are initially inclined to do so. In addition, realistic and real-time operationalizations of power may lead to differential levels of cognitive load (Fiske, 1993), and deficits in cognitive capacity may decrease the ability to be deliberative and thereby inadvertently increase action. In Experiment 1, those with power had to decide how they would direct, evaluate, and distribute rewards, whereas subordinates were simply waiting for direction and therefore were not cognitively taxed with mental planning. This might have freed those in the low-power condition to ruminate about their blackjack choice, while forcing those in the high-power condition to act impulsively, not because of their power per se, but because the consequences of doing so seemed less important compared with the consequences of failing to plan and manage effectively. By manipulating power through structural positions and actual levels of control, action might simply be the result of role-prescriptive behavior or decreased levels of cognitive capacity, and not the inherent association between power and action. To address these possible confounds, we devised an alternative procedure in which the experience of power was manipulated while role-prescriptions and cognitive load were held constant.

## Experiment 2: The Annoying Fan

The first experiment demonstrated that power can lead to action outside the realm of power. In the next experiments, we wanted to build on this notion by examining whether remembering an incident in which power was experienced would bring forth a cluster of action-oriented cognitions and behavior. Would simply remembering possessing power be enough to lead people toward action? If the association between power and action is as strong as we have suggested it is, then it should persist even when the experience of power is only recalled and not actually possessed.

To explore whether activating power increases the tendency toward action, in Experiment 2 (as well as in Experiment 3), we manipulated power by having participants recall a situation in which they either possessed power over someone else, or in which someone else possessed power over them. We assumed that this manipulation would prime (i.e., activate) the concepts of high power and low power, respectively. To the extent that an action orientation is associated with high power, simply recalling an experience in which power was possessed should lead to an action orientation in a new context. Our experiential priming procedure—remembering a personally relevant experience with social power—allows us to prime power in a way that is meaningful to participants without differentially affecting the cognitive capacity or role-prescribed norms of high- and low-power participants.

The next experiment was also designed to show that power increases the correspondence between goals and desires on the one hand and the performance of behaviors that would satisfy them on the other; that is, power leads to the performance of goal-directed acts. We created a situation in which individuals, regardless of their power, would be motivated to remove an annoying stimulus, but where it was unclear whether they were allowed to do so. We predicted that priming power would increase the likelihood of acting to remove the annoying stimulus.

In prior research there is little direct evidence that power increases the performance of goal-directed actions, but there is some evidence that power increases the link between internal psychological experience and observable behavior. These tests have taken one of three forms. In the first form, the researcher measures a stable individual psychological dimension (e.g., personality trait) in high-power and low-power individuals, and then creates a situation that should lead individuals high or low on the measured dimension to behave in predictable, but different, ways. The association between the individual difference measure and behavior should be stronger in high-power individuals than in individuals lacking in power (e.g., Chen et al., 2001). For example, the personalities of high-status fraternity members reliably predict self-reports of both positive and negative emotions, but no such correspondence occurs for low-status members (Anderson et al., 2001). Using this method, the behavior and feelings of the powerful are more predictable compared with the powerless.

In the second type of investigation, there is no prediction about the direction of the behavior, but more variance is expected in high-power compared with low-power individuals. The logic in this method is that powerful individuals should behave more according to their idiosyncratic desires and needs than to the social norms that might govern the situation, and, thus, their behavior should be more variable than the behavior of low-power individuals (e.g., Guinote et al., 2002).

In the third method, the researcher creates a situation in which all individuals should *want* to behave in a particular way, yet the situation makes it ambiguous whether or not the individuals *can* or are *allowed to* behave in that way. In this method, the researcher expects that a significantly higher proportion of high-power individuals will act to satisfy their needs compared with low-power individuals. In an impressive demonstration of the increased attention to personal desires and the inattention to social conventions that power affords, Ward and Keltner (as cited in Keltner et al., 2003) found that high-power participants, facing a limited supply of cookies, ate more than low-power participants, and ate with greater abandon: They were more likely to chew with their mouths open and to get crumbs on their face and on the table. Gonzaga, Keltner, Londahl, and Smith's (2001) finding that power leads to less inhibited flirting can also be characterized in this manner.

In Experiment 2, we chose to use the third method by inducing discomfort in all participants through the use of an annoying stimulus in the environment: a fan blowing directly onto the participants. We also created the situation so that the purpose of the fan to participants was unclear, thereby creating uncertainty about whether it was permissible to take action against the fan by moving it or turning it off. In contrast, Experiment 1 explicitly confronted participants with the decision of whether to act. Thus we were interested in whether those with power would engage in action that would reduce their discomfort even when it was ambiguous as to whether action was allowed.

To explore these issues, participants first completed a narrative essay task that asked them to recall an experience in which they either possessed power over another person or another person possessed power over them. After completing this power prime manipulation, participants were taken to another room to complete a number of ostensibly unrelated tasks. The first task they completed in this room was a resource allocation task that was designed to reinforce the power prime manipulation. In this room,

participants encountered a fan on the table that was blowing directly at the chair where they were supposed to sit. This fan was blowing at such a speed and at such close proximity to the participants that it was quite annoying. We coded for whether participants acted on the fan by moving it, turning it off, or diverting its airflow in some way.

## Method

### Participants

Participants were 66 (49 women and 17 men) undergraduate students who participated for payment of $10 and entry into a $300 lottery.

### Design and Procedure

The experiment involved two conditions, a high-power and a low-power condition. Participants came in groups of 2 or 3 to the lab where they filled out the experiential primes in which they were asked to recall a particular incident in their lives. Those participants assigned to the high-power condition were instructed as follows:

> Please recall a particular incident in which you had power over another individual or individuals. By power, we mean a situation in which you controlled the ability of another person or persons to get something they wanted, or were in a position to evaluate those individuals. Please describe this situation in which you had power—what happened, how you felt, etc.

Those participants assigned to the low-power condition were instructed as follows:

> Please recall a particular incident in which someone else had power over you. By power, we mean a situation in which someone had control over your ability to get something you wanted, or was in a position to evaluate you. Please describe this situation in which you did not have power—what happened, how you felt, etc.

Participants were given a sheet of paper with 19 lines to complete this task. Participants were unaware of the power prime manipulation that the other participants in the session received. After completing this power-priming task, they were each brought to separate rooms where they were videotaped by a discreetly placed camera. Before entering the rooms, the experimenter explained that they would be completing some more tasks that would be described in packets of paper on the desks in the rooms. In front of their seats, there were table fans blowing on them. The packets instructed the participants to begin working on a resource allocation task. The resource allocation task was designed to reinforce the power prime. The participants who completed the high-power prime manipulation were asked to allocate lottery tickets to themselves and another participant. They were told the tickets would be entered into a lottery for a dinner coupon worth $300 at a local restaurant. Participants who completed the low-power prime were asked to predict the allocation decision that the high-power person would make. Thus, the power manipulation consisted of two parts—recalling a previous experience with power and engaging in a resource allocation task. At the end of the experiment, each participant was thoroughly debriefed and fully probed for suspicion. Not a single participant expressed any suspicion that the power manipulation and the dependent measure were related.

## Results and Discussion

### Manipulation Check

One coder, who was blind to both condition and hypotheses, categorized what type of relationship (e.g., manager–subordinate, teacher–student) was described in the participants' priming essays (see the Appendix for a breakdown of the power relationships described in the essays from Experiments 2 and 3). We also had this coder rate all the power-prime essays from Experiments 2 and 3 for how much power the participant reported having using a 7-point Likert scale. We had a second coder rate 10% of the essays (across Experiments 2 and 3) and the reliability was high ($\alpha$ = .94), and therefore we used the single coder's ratings. As expected, participants described themselves as having more power in the high-power essays ($M$ = 5.85, $SD$ = 0.37) than in the low-power essays ($M$ = 2.33, $SD$ = 0.74), $t(57) = 22.22$, $p < .001$.

### Acting on the Fan

Data for 3 participants were missing because the experimenter failed to turn on the videotape recorder for Room 2 on one of the days. In addition, 2 participants were removed from the analyses because of a procedural error, and 2 participants were removed for not following the instructions. A coder who was blind to condition analyzed the videotapes and recorded 1 when participants moved the fan away, turned it off, or unplugged it, and 0 if they took no action involving the fan. A significant effect of power emerged, $\chi^2(1, N = 59) = 4.21$, $p = .04$.[3] High-power participants were more than twice as likely to take action against the fan than to ignore it (69% [$n$ = 18] vs. 31% [$n$ = 8]). This was not true for low-power participants: less than half acted on the fan (42% [14 of 33]). Furthermore, we investigated each condition's deviation from chance likelihood (.5) of acting on the fan. A nonparametric chi-square test showed that high-power participants significantly deviated from chance likelihood of acting on the fan, $\chi^2(1, N = 26) = 3.85$, $p = .05$, whereas low-power participants did not, $\chi^2(1, N = 33) = 0.75$, $p = .38$. The possession of power increased the tendency toward acting on the fan, satisfying the goal of reducing physical discomfort.

### Relationship Between Power Primes and Acting on the Fan

There is an alternative explanation for the results of Experiment 2 that must be addressed. Perhaps people who recalled a time in which they had power simply described greater amounts of action in their essays. If this were the case, then acting on the fan might simply be an example of semantic priming: Participants described more action in their prime essays and then took more action later on. To test for this alternative explanation, we also had the essays coded for how much action was described using a 7-point Likert scale (a second coder rated 10% of the essays across

[3] There was also a significant interaction between sex of participant and power, $\chi^2(1, N = 59) = 4.25$, $p = .04$, such that men were more affected by the power manipulation than were women. This interaction, however, should be interpreted cautiously. Because the experiment was not designed to test for sex effects, the total number of participants is very low in some of the conditions (e.g., only 4 men in the high-power condition), which can result in unstable effects. In addition, although there was no significant interaction between sex of participant and power in Experiment 1, $\chi^2(1, N = 32) = 1.76$, $p = .19$, the pattern of data was in the opposite direction, such that women were more affected by the power manipulation than were men. Supplemental analyses are available from the authors upon request.

Experiments 2 and 3 and the reliability was high [$\alpha = .83$], and therefore we used the single coder's ratings). High-power prime essays ($M = 4.27$, $SD = 1.19$) did indeed describe more action than did low-power prime essays ($M = 3.45$, $SD = 1.37$), $t(57) = 2.40$, $p = .02$. However, we hypothesized that it is the amount of power that participants recalled possessing in their essays, not simply the amount of action described, that should positively predict action against the fan. Therefore, we regressed acting on the fan on two predictors: essay action and participant power. Participant power was significantly and positively related to acting on the fan ($\beta = .53$, $p < .01$), whereas essay action was significantly and negatively related to acting on the fan ($\beta = -.76$, $p < .01$). Only participant power was a positive predictor of acting on the fan. In fact, the more action that was described in the essays, the less likely the participants were to act on the annoying stimulus. The alternative explanation that semantic priming of action can account for the results did not find any support. Rather, as in the first experiment, power increased the tendency toward action. Activating high power increased taking action to remove an obtrusive object, an annoying fan, even when the permissibility of taking such action was ambiguous.

## Experiment 3: Corruptibility and Responsibility in Action

The results from Experiment 2 found that those with power are more likely to act in ways that satisfy their current desires, to act in an apparently self-interested way. Although the consequences of removing an annoying fan did not benefit power holders at others' expense, the effects of power are often regarded with a more grim view: It has been widely observed that power can lead to corruption and ultimately produce antisocial consequences. Much empirical research supports this claim. Power leads to egocentrism, a preoccupation with the concerns of the self at the expense of awareness of others' motives (Kipnis, 1972). Power possessors are less accurate than those dispossessed of power in estimating the interests and positions of others (Keltner & Robinson, 1996, 1997). It has been argued that the inaccuracy of men, compared with women, in judging others' emotions may also be related to the greater power that men possess in society (see Keltner et al., 2003). This egocentric focus on one's own desires can even lead to such malfeasant social behaviors as sexual harassment (Bargh et al., 1995). In addition to an egocentric focus, power also leads to stereotyping (Fiske, 1993; Goodwin et al., 2000). Those with power spend more time paying attention to stereotype-consistent information than individuating information, and ultimately base their impressions of others on social-category information (Goodwin et al., 2000; but see Overbeck & Park, 2001). Fiske (1993) pointed out that because stereotypes help to maintain one person's control over another, power promotes stereotyping, and stereotyping helps maintain power. All in all, this literature presents a dim view of power, equating it with a state of depravity.

In contrast, there are recent studies suggesting that power can also have prosocial effects. These positive effects of power can emerge from the person or the situation. Individuals with a communal orientation become more generous and beneficent when possessing power compared with those with an exchange orientation (Chen et al., 2001). When the situation demands that the power holder take responsibility for the welfare of another person, high-power individuals are more likely to individuate and personalize (Brewer, 1988) individuals lacking power (Overbeck & Park, 2001). In each of these cases, when power increased feelings of responsibility for another individual, the powerful acted in ways to assist that individual.

Consistent with the results of the first two experiments, we contend that those with power will heed the call to action. Whether power corrupts or elevates may depend on whether displays of action in a situation will, by definition, produce social ills or social benefits. Social dilemmas are an ideal context to explore the tendency for power to lead to action irrespective of its prosocial or antisocial consequences because, depending on how the dilemma is framed, action can be construed in either prosocial or antisocial terms. A social dilemma refers to a situation in which a group of individuals must choose between maximizing self-interest and maximizing collective interest. Typically, the cumulative result of individual (and self-interested) decisions can result in collective disaster. Although it typically appears to be more profitable and advantageous to maximize one's self-interest, when all members of the group choose to maximize self-interest, everyone will be worse off than if the collective interest had been maximized.

Social dilemmas come in two different forms. In a *commons dilemma*, individuals must decide how much of a shared resource they wish to take for themselves: Commons dilemmas are a problem of consumption. For example, contemporary fishers wish to harvest as many fish as possible to increase their short-term profits, but if everyone chooses this strategy then the entire supply of fish could be exhausted. If people show restraint and only harvest a modest amount of fish, then the shared resource will remain available for future use, leaving everyone better off. In a *public-goods dilemma*, individuals must decide whether and how much to contribute to create or retain a common resource: Public-goods dilemmas are a problem of contribution. For example, each individual may prefer not to donate money to public radio yet still reap the rewards of listening to the enriching programs. However, if everyone fails to contribute, then the radio station will cease to exist and everyone will be worse off.

Brewer and Kramer (1986) noted that these two different types of social dilemmas, commons and public goods, are structurally and functionally equivalent. That is, in both cases individuals must choose between having more for themselves versus acting in the collective interest but at some personal cost; individuals give up an immediate benefit to sustain a resource for collective use. However, Brewer and Kramer also demonstrated that the two types of dilemmas, despite being structurally equivalent, are not psychologically equivalent. Because a public-goods dilemma requires that one must give up an already possessed resource, people show greater self-interest here than in a commons dilemma, in which one must forgo a potential gain (Brewer & Kramer, 1986); this finding is consistent with prospect theory, in which losses are more painful than gains (Kahneman & Tversky, 1984; Tversky & Kahneman, 1981).

We contend that the two types of dilemmas also differ in terms of the consequences of taking action. In the commons dilemmas, action involves taking from and potentially depleting a shared resource. In the public-goods dilemma, action involves contributing to and potentially sustaining a shared resource. Because we believe that power increases the tendency to take action, in whatever way action is defined and suggested in a given context, we hypothesized that power would ironically increase both taking in a

commons dilemma and giving in a public-goods dilemma. In a commons dilemma, those experiencing power would appear to perpetuate power's reputation as a scourge and blight, exhibiting greater antisocial tendencies than those with less power. In a public-goods dilemma, however, those experiencing power would resemble admired public figures who create prosocial outcomes that would otherwise not materialize. We predicted that power would increase action independent of its social consequences.

Because the first experiment measured baseline action at a different time than the experimental conditions and the second experiment did not use an experimental control condition, it is not entirely clear whether activating high power increases action relative to others or whether activating lack of power decreases action relative to others. In the final experiment we added a control condition to compare these two alternative hypotheses. In addition, because the power manipulation in the second experiment consisted of two parts, it is unclear whether merely thinking about an experience with power is enough to increase tendencies toward action. Therefore, the power manipulation in the final experiment only consisted of having participants recall either a high- or low-power experience. Finally, we sought to rule out the possibility that mood, which might be affected by power, was accounting for our findings. That is, our power manipulations might have increased positive mood, and it could be these increases in positive mood that lead to action (Isen, 1987). To test the possibility that an action orientation is simply an incidental byproduct of positive mood, rather than a response to the experience of power, per se, we assessed participants' mood at the end of the experiment.

## Method

### Participants

Participants were 155 undergraduate business students who participated as part of a class exercise. The classes were comprised of 73% men and 27% women.[4]

### Design and Procedure

The experiment involved a 3 (power: high power vs. low power vs. control) × 2 (type of dilemma: public goods vs. commons) between-subjects design. Participants were run in two large groups, one for each of the dilemmas. Both dilemmas were run on the same day. Participants were given a packet that comprised the experimental materials and were told that they would engage in a number of different tasks. The first task comprised the experimental manipulation of power. Participants in the high-power and low-power conditions completed the same narrative essay task from Experiment 2. Participants in the control condition were told the following: "Please recall your day yesterday. Please describe your experiences yesterday—what happened, how you felt, etc." Each participant was given 19 lines to complete the essay.

After writing their essays, participants went on to the resource dilemma task. In the *commons dilemma task*, participants were given (both verbally and in written form) the following instructions (see Brewer & Kramer, 1986):

> There are many resources of a fixed amount, such as electricity, that are available to everyone and whose existence depends on people not consuming too much. If enough people are reasonable about how much they consume, these resources will continue to be available. If enough people consume too much, then they will cease to exist. Obviously, the less each person consumes, the more there is for everyone. But, of course, it is possible to consume so much that there is none for everyone, including yourself. Thus, each person must decide whether to take from the resource and, if so, how much to take. Today you will participate in two successive trials of a situation like the one described above. You and the other participants here today share access to a common pool of 1000 points. On each trial, you should decide how many points you want to take for yourself. This amount can be between 0 and 10. You should try to accumulate as many points as possible for yourself because this will determine how many lottery points you will receive. Two people will receive a $50 gift certificate for a local restaurant from a lottery drawing that will be weighted by the number of points each individual has. But you should also be careful not to take too much, because if there are no more points in the common pool at the end of two trials, then nobody, including yourself, can receive the gift certificate. The common pool size for the second trial will be determined by two things that will mimic uncertainty in the real world: the amount you all take in the first trial and a replenishment factor. First, we will take the average of the amount of points taken by a random sample of 10 people, and multiply that number by the total number of people here today as the amount of points that was taken from the common pool. Second, the pool will be replenished by a randomly selected percentage of the common pool amount between 1% and 10%.

On the next page participants were asked, "How many points do you wish to take from the resource pool?" (Trial 1). The bottom of the page instructed participants to wait to turn the page until after they were given information about replenishment. The experimenter recorded the responses of 10 of the individuals and supposedly computed the replenishment factor (in actuality the size of the pool after Trial 1 was fixed in advance). Participants were told that the pool now stood at 486 points. The next page asked them to again record how many points they wished to take from the resource pool (Trial 2).

In the *public-goods dilemma task*, participants were given the following instructions:

> There are many public services and resources, such as public radio stations, which are available to everyone and whose existence depends upon voluntary contributions. If enough people contribute enough money, these resources will continue to be available. If voluntary contributions fall below a certain point, however, they will be undersupported and cease to exist. Obviously, the more people who contribute, the less each has to give. But, of course, it is possible to contribute nothing and still enjoy the resource since access is open to all. On the other hand, if everyone fails to contribute, or if the total contributions are insufficient, the resource cannot be sustained and no one will enjoy access to it. Thus, each person must decide whether to contribute to the resource and, if so, how much to contribute. Today you will participate in two successive trials of a situation like the one described above. At the current time (i.e., before the start of the first trial) the pool stands at −1000 points. At the start of each of the two trials, your personal account will be credited with 10 points. The amount of points you have in your personal account at the end of the session will determine how many lottery points you will receive. Two people will receive a $50 gift certificate from a lottery drawing that will be weighted by the number of points each individual has. On each trial, you should decide how many of your points you want to return to the common pool. If there are less than 0 points in the common pool at the end of two trials [i.e., if fewer than 1000 points have been returned to the pool], then nobody, including yourself, can receive the gift certificate. The common pool size for the second trial will be determined by two things that will mimic uncertainty in the real

[4] We were not able to match the responses with the sex of participants.

world: the amount you all contribute in the first trial and a replenishment factor. First, we will take the average of the amount of points returned by a random sample of 10 people, and multiply that number by the total number of people here today as the amount of points that was returned to the common pool. Second, the pool will be replenished by a randomly selected percentage of the common pool amount between 1% and 10%.

On the next page participants were asked, "How many points do you wish to return to the resource pool?" (Trial 1). The bottom of the page instructed participants to wait to turn the page until after they were given information about replenishment. The experimenter recorded the responses of 10 of the individuals and supposedly computed the replenishment factor (as in the commons dilemma, the size of the pool after Trial 1 was fixed in advance). Participants were told that the pool now stood at −486 points. The next page asked them to again record how many points they wished to return to the resource pool (Trial 2).

After completing the resource task, participants were asked to rate their current mood using a 7-point Likert scale, anchored at *very bad* and *very good* (see Bless, Mackie, & Schwarz, 1992).

## Results

### Manipulation Check

The prime essays were coded for how much power participants reported having using a 7-point Likert scale. As expected, participants described themselves as having more power in the high-power prime essays ($M = 5.36$, $SD = 1.09$) than in the low-power prime essays ($M = 2.19$, $SD = 0.82$), $t(88) = 15.46$, $p < .001$.[5]

### Taking and Contributing to the Resource Pool

We hypothesized that those participants primed with high power would demonstrate a tendency toward action. For the commons dilemma, action meant taking from a resource. For the public-goods dilemma, action constituted contributing to a common resource. Thus we expected that participants primed with high power would both take more and give more to a commonly shared resource than participants primed with low power or those in the control condition. To test this hypothesis we submitted the points that participants either gave to or took from the resource to a 3 (power: high power vs. low power vs. control) × 2 (type of dilemma: public goods vs. common) × 2 (trial: 1 vs. 2) mixed-model analysis of variance (ANOVA) with repeated measures on the third factor. There was a significant effect of power, $F(2, 149) = 4.79$, $p = .01$. Power did not interact with social dilemma ($F < 1$). Thus, type of dilemma did not moderate the effect of power on action.[6] Activating high power ($M = 6.31$, $SD = 2.53$) increased the tendency to both take from and contribute to a commonly shared resource compared with participants in the control condition ($M = 5.39$, $SD = 2.28$), $t(152) = 2.04$, $p = .04$, and participants primed with low power ($M = 5.06$, $SD = 2.05$), $t(152) = 2.69$, $p < .01$. The control condition and the low-power condition did not significantly differ from each other ($t < 1$). Overall, in the commons dilemma, the resource pool was depleted, and in the public-goods dilemma, the pool failed to rise above zero points. That is, in both dilemmas the resource ceased to exist after the second round.

*Mood.* The mood of participants was not significantly altered by the power manipulation, $F(2, 146) = 1.16$, $p = .36$. Although mood and action were correlated, $r(152) = .21$, $p = .01$, covarying out the effect of mood did not appreciably decrease the effect of the power manipulation; the effect of the power manipulation remained significant, $F(2, 145) = 3.43$, $p = .03$.[7]

*Relationship between power primes and acting on the resource.* As in Experiment 2, we had the essays coded for how much action was described using a 7-point Likert scale. The coder also counted the number of verbs implying action and inhibition in the essays (see Semin & Fiedler, 1988). Active verbs included both interpretive and descriptive action verbs (e.g., *help*, *cheat*, *talk*), but inhibition verbs included only interpretive action verbs (e.g., *stop*, *block*) (Semin & Fiedler, 1988). Both categories excluded state verbs (e.g., *like*, *hate*). These measures appeared to be less sensitive to the amount and intensity of action that the essays conveyed compared with the 7-point Likert scale, as there was not a significant difference between the high-power ($M = 5.55$, $SD = 3.63$) and low-power conditions ($M = 5.66$, $SD = 2.86$) for action verbs, $t(89) < 1$, or for inhibition verbs ($M = 0.11$, $SD = 0.31$ and $M = 0.30$, $SD = 0.82$, respectively) $t(89) = 1.47$, *ns*. Analyses using these categories as proportions of the total words written were substantively and statistically similar. Thus, we chose to present a more generous test of the alternative explanation that semantic priming of action accounted for our results by using the 7-point Likert-scale rating.

As in Experiment 2, high-power prime essays ($M = 3.13$, $SD = 1.28$) described more action than did low-power prime essays ($M = 2.45$, $SD = .90$), $t(89) = 2.88$, $p < .01$. We regressed acting on the resource on two predictors: essay action and participant power. Participant power was significantly related to acting on the resource ($\beta = .28$, $p < .01$), whereas essay action was not ($\beta = .08$, $p = .43$). As in Experiment 2, participant power was a better predictor of acting on the resource than was essay action. Given the consistent pattern that the amount of power, and not the amount of action expressed in the prime essays, was a positive predictor of action, we feel confident that the alternative explanation—that increased levels of action were produced through semantic priming of action—cannot account for our results.

[5] We did not code the essays from the control condition for amount of participant power because very few of the control participants described situations that were relevant to social power. Therefore all of the analyses involving the content of the prime essays in Experiment 3 were only conducted on the high- and low-power conditions.

[6] Although the interaction between resource dilemma and power did not approach statistical significance, we conducted separate one-way ANOVAs for each type of social dilemma. For the public-goods dilemma, the one-way ANOVA was significant, $F(2, 75) = 3.78$, $p = .03$. High power led to more giving ($M = 5.38$, $SD = 2.56$) than did low power ($M = 3.84$, $SD = 1.71$) or the control condition ($M = 4.14$, $SD = 1.90$), $t(75) = 2.72$, $p < .01$. For the commons dilemma, the one-way ANOVA was not significant, $F(2, 74) = 1.29$, $p = .28$. However, the data were in the predicted direction, with high power taking more ($M = 7.20$, $SD = 2.18$) than did low power ($M = 6.33$, $SD = 1.54$) or the control condition ($M = 6.70$, $SD = 1.90$), $t(74) = 1.48$, $p = .14$.

[7] In addition, a Sobel test demonstrated that the effect of power on acting on the social dilemma was not significantly reduced when mood was also entered ($z < 1$, $p > .83$).

### *Discussion*

In Experiment 3, power increased action regardless of whether that action expanded or depleted a shared resource. In fact, had all the participants in the commons dilemma not been in the high-power condition, then the resource would have persisted beyond the second trial. However, had all the participants in the public-goods dilemma been in the high-power condition, then the resource would nearly have been retained. Power is linked to the depletion of a valued resource in one case and the continuation of a valued resource in the other case. A community of high-power individuals could be a condemned community suffering deprivation or a confident community reveling in an ever-expanding public resource. Which community—the one destined for deprivation or the one destined for prosperity—appears to depend on how the resource is maintained.

It is interesting to note the asymmetry of action and disinhibition in the two tasks. In the commons dilemma, the person who demonstrates action overcomes the inhibitory effects of norms of personal restraint. In the public-goods dilemma, action overcomes the inhibitory effects of norms of self-interest (in many situations there are norms promoting displays of self-interest; Miller, 1999; Miller & Ratner, 1998). Although these effects, taking and giving, are in direct opposition to each other, both can be seen as representing disinhibited action that is freed from social conventions.

These results also provide clear evidence that priming high power increases a tendency toward action rather than the dispossession of power leading to a lack of action. Being primed with high power led participants to both take more from and give more to a commonly shared resource compared with both a control condition and a low-power prime condition. In addition, the effect of power on these actions occurred independently of participants' current mood state, suggesting that the relationship between power and action is not simply produced through alterations in mood (though it should be noted that because the mood measure was taken after the social dilemma it might be the case that action affected mood rather than mood influencing action).

## General Discussion

The three experiments presented here provide converging evidence not only that power and action are related but, more precisely, that the possession and experience of power leads directly to the taking of action. This relationship has been theorized by others (e.g., Keltner et al., 2003), but it has not been empirically demonstrated directly until now. In Experiment 1, placing participants into a managerial role (i.e., a structural position of power) increased the tendency to take a card in a simulated game of blackjack. This first experiment demonstrated that the possession of power increases the tendency toward action even when the power and the action are from two functionally independent contexts. The second experiment found that activating high power increases manifestations of action in the service of personal desires. High-power participants were more likely to act on an annoying fan in a situation where it was unclear whether one was permitted to do so. Finally, the third experiment provided strong support for our hypothesis that power and action are related and, contrary to conventional wisdom about corruption, action is not always taken just in the service of self-interest. Simply remembering an experience in which one possessed power increased the tendency to act on a common social fund, regardless of whether doing so had prosocial or antisocial consequences.

Across the experiments, power led to action irrespective of whether the action dependent measure was dichotomous (Experiments 1 and 2) or continuous (Experiment 3), and regardless of whether participants were explicitly confronted with the choice of acting or not acting (Experiments 1 and 3) or whether the applicability or permissibility of taking action was ambiguous (Experiment 2). The relationship between power and action was observed using two different manipulations of power (possessing structural, hierarchical power and recalling an experience with power) and multiple operationalizations of action, demonstrating the robustness of the power–action association. Regardless of how power and action were instantiated, power led to more manifestations of action.

In showing that power and action are causally related using multiple manipulations of power, we also ruled out the possible effects of a number of factors that are often naturally confounded with power. The normative prescriptions of hierarchical roles and differential levels of cognitive capacity have confused the interpretation of many previous investigations into the effects of power and would seem to be particularly problematic for exploring the power–action association. By priming the experience of power instead of manipulating the possession of power directly, we eliminated the possible effects of cognitive load and role-prescribed behavior as alternative explanations for our findings.

Kipnis (1972) suggested that possessing power transforms the person and that power has metamorphic qualities. In two of the three studies, those who possessed power or who were primed with power deviated from a baseline/control condition, suggesting that it is the presence of power rather than the absence of power that drove the effects. Having and experiencing power leads to action more than lacking power leads to inaction. Power is indeed a catalyst to action.

### *The Power–Action Association*

Why does power lead to action? We contend that the association between power and action is ultimately functional (see Bargh, 1997, for a discussion of the functionality of automatic goal activation). Power allows an individual to engage in actions that can promote successful completion of goals and, ultimately, the retention of power. For example, acting on annoyances in the environment (e.g., removing an irritating fan) increases the quality of one's experience in that situation. This action orientation may persist to areas in which action is not only beneficial to the power holder but also to his or her community. A community of high-power individuals may be a place where culture flourishes, with exquisite museums and melodious symphony orchestras.

Considering why the power–action association exists also raises the following question: Where does the power–action association emerge from? The power–action association may be the product of learning, of conditioning, of growing up in an environment that encourages those in power to take action. If those in power are expected to act and are rewarded for doing so, then a natural association between power and action will develop over time, such that activating power will activate the associated action orientation. This analysis suggests that in those cultures in which the

powerful are not expected to act and are punished for doing so, power should be associated with inaction, such that activating power will lead to decreased displays of action. Thus, different cultural norms for how power should be exercised may moderate the relationship between power and action (see Chen et al., 2001).

Despite the multiplicity of instantiations of action and power, we have only been able to provide some evidence for the hypothesized mechanisms for our effects. As Keltner et al. (2003) suggested, power activates the behavioral approach system, which involves positive affect, perceptual attunement to rewards, and goal-directed motor behavior. We go beyond this initial formulation by arguing that the concept of power can be stored in memory and can activate approach processes in situations unrelated to the possession of power. Although we have attempted to rule out a number of alternative explanations for our findings, it is possible that power, and our manipulations of it, activated other contributing responses. Despite finding that the association between power and action was not merely an incidental byproduct of increased mood in the third experiment, positive affect as part of the behavioral approach system might very well be one mechanism by which power produces increased tendencies to act. In addition, the single-item measure of mood in Experiment 3 may not provide the most reliable test of whether positive mood is driving the effects of power on action. Future research should use a multi-item measure of mood that can also delineate the role of particular discrete emotions in the effects of power on behavior.

Because power activates the behavioral approach system, increased action in response to the possession and experience of power could be the product of increased desire, or at least increased attention to one's desires. It is also possible that participants, in responding to our priming manipulation, considered a model of how a person with or without power should behave, and then attempted to behave in ways that are consistent with that prototype. Similarly, the priming manipulation may have activated self-knowledge and in doing so produced strivings for self-consistency. These possibilities seem unlikely considering that none of the participants noticed any connection between the priming manipulation and the dependent measure in Experiment 2, and it is hard to imagine how strivings for self or prototype consistency would both increase taking and giving to a social dilemma. However, these alternatives are worthy of further consideration and future research would do well to elaborate, both empirically and theoretically, on the relationship between power and action. Given the variety of effects that activating the behavioral approach system has, the road from power to action is surely multiply determined.

### *Priming Power: Conceptual or Mind-Set Priming?*

Our research raises questions about how power is represented mentally: What gets activated when power is primed? The literature on priming has distinguished between conceptual priming and mind-set priming (see Bargh & Chartrand, 2000). Conceptual priming involves the activation of specific mental representations, from traits to stereotypes to goals, which then serve as interpretative frames in the processing of subsequent information (Higgins, 1996). Once one concept is activated, associated concepts are also triggered through spreading activation (Neely, 1977). Bargh et al. (1995) and Chen et al. (2001) clearly saw power as a conceptual prime. By exposing participants to words related to the possession of power they show that specific, individualized goals that are associated with power also are activated and then used as guides in perception and behavior.

Mind-set priming, however, activates procedural knowledge. What is primed is a way of thinking. Bargh and Chartrand (2000) also distinguished mind-set priming from conceptual priming at the methodological level. They noted that most studies of mind-set priming involve having participants first intentionally use the mental procedure in question rather than simply exposing participants to words related to a particular construct. Thus, mind-sets involve the nonconscious carryover of an intentionally pursued mental procedure. For example, Gollwitzer, Heckhausen, and Steller (1990) had participants first think either deliberatively (i.e., to weigh the pros and cons of initiating action with regard to an unresolved personal problem) or to think implementally (i.e., to plan the implementation of a chosen personal project), and then they participated in a "second experiment" in which they completed half-finished fairy tales. Deliberative mind-set participants tended to ascribe deliberative actions to the main character, from contemplating courses of action to seeking advice; however, implementation mind-set participants had their characters plunge headfirst into action. Similarly, thinking counterfactually in one context increases the tendency to (nonconsciously) use mental simulation as a cognitive process when solving a variety of problems (Galinsky & Moskowitz, 2000; Kray & Galinsky, 2003). Mind-set activation changes the processing rules at one's disposal.

The particular priming procedure we have used in the current experiments was directly adapted from the work of Gollwitzer et al. (1990), and, methodologically, Bargh and Chartrand (2000) would classify our priming procedure as one that activates a mind-set. In addition, power seems more than simply the type of interpretive frame that is often connected to conceptual priming; rather, power seems to be a way to approach the world, of how and not just what to think and act. Following our priming of power, was the resultant action the consequence of a simple association between power and action, and thus under the purview of conceptual priming? Or was it the result of power transforming the processing rules and mental procedures that are used?

We have some suggestive evidence that conceptual priming of the construct of power may not be sufficient to explain our results and that the notion of mind-sets might need to be invoked. Both Bargh et al. (1995) and Chen et al. (2001) activated the concept of power by exposing participants to words related to the possession of power. Therefore, in Experiment 3, we coded the power prime essays for the number of words written that corresponded to the possession of power (these words were adapted from the priming procedures of Bargh et al. (1995) and Chen et al. (2001)—e.g., *power*, *manager*, *influence*, *control*, *authority*). If high-power participants had exposed themselves to more words related to the possession of power, then the concept of high power should be more strongly activated in these participants (Bargh & Pietromonaco, 1982), which might then account for the level of action taken. High-power prime essays, however, did not contain more high power-related words than did low-power prime essays ($t < 1$), nor were the number of high-power related words related to action ($t < 1$). Rather, what mattered for the amount of action taken was how much power the person expressed possessing in the power essays. Because high-power essays did not contain a greater

number or proportion of words related to the possession of power, it seems unlikely that the effects on action were produced simply through conceptual priming. Power is one concept that seems to blur the line between conceptual and mind-set priming. By understanding what gets activated when people think about power, not only will our understanding of power increase, but so too will our understanding of the nature of priming effects in general.

## Conclusion

Across two different manipulations of power—possessing and priming power—and across a variety of instantiations of action, we have established that power and action are intimately related. Power leads directly to action. The possession of power can increase a tendency toward action not only in the context in which power is possessed, but also in later, unrelated contexts. This action orientation is not inherently nefarious, as power increased both giving to (prosocial action) and taking from (antisocial action) a commonly shared resource. Power is not always corruptible but at times commendable, exercised for the general common good to all.

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(*Appendix follows*)

## Appendix

Percent of Power Relationship Types Described by Participants in Experiments 2 and 3

| Type of power relationship | % |
|---|---|
| Manager–subordinate | 18.5 |
| Parent–child | 13.6 |
| Peers | 12.3 |
| Interview/admissions/tryouts | 11.7 |
| Teacher–student | 6.8 |
| Club leader–member | 6.2 |
| Friends/relatives | 5.0 |
| Law enforcement–citizen | 4.9 |
| Coach/official–athlete | 4.4 |
| Customer service–customer | 3.7 |
| Romantic/dating partners | 3.1 |
| Counselor–camper | 1.9 |
| Miscellaneous | 7.9 |
| Total | 100.00 |

*Note.* Types of relationships that totaled less than 1% were aggregated to form the category "Miscellaneous."

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