CHAPTER 16

POWER: PAST FINDINGS, PRESENT CONSIDERATIONS, AND FUTURE DIRECTIONS

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Lord Acton had something to say about power. So too did William Shakespeare, Friedrich Nietzsche, Bertrand Russell, and Stan Lee. From playwrights to philosophers to comic book writers, everyone seems to have observed the pervasive and vexing nature of power and constructed their own seemingly unique wisdom regarding its nature and novel insight into its consequences. With enough experiences, any and all proclamations about power may appear to be true. One of the tasks that falls on social scientists, however, is to determine which versions of the folk wisdom surrounding power have stood up to scientific scrutiny and under what conditions they have done so.

Systematic analysis of power in social psychology began at the end of World War II, with a tendency toward cataloging its corruptive lure. In what could be considered the first wave of the social psychological investigation into the effects of power, scholars explored whether positions of power cause the powerful to behave with greater self-interest and in a more antisocial fashion. Set against the backdrop of the extreme contexts of Nazi death camps and prisons, two of the seminal studies in the social psychology canon—Milgram (1963) and Zimbardo (1973; Zimbardo, Pilkonis, & Norwood, 1974)—supported the folk wisdom that power has a negative influence on behavior. Using more ordinary situations and techniques, Kipnis (1972; Kipnis, Castell, Gergen, & Mauch, 1976) documented the selfish and egocentric tendencies that power can incite in individuals. None of these studies, it would be fair to say, suggested that power could be a catalyst for making the world a brighter place.

After a steady interest in power among social psychologists throughout the 1970s and 1980s, a second wave of research explored the topic of power within the dominant paradigm of that period—social cognition. In this work, the methods had changed, but the dim view of power had not. Fiske and colleagues (e.g., Fiske, 1993; Goodwin, Gubin, Fiske, & Yzerbyt, 2000) investigated power's negative effects but departed from prior research on the social psychology of power in two important ways. First, these scholars were interested in attention and stereotyping, phenomena that were not part of the pervasive folk wisdom about power. Second, their predictions were generated from theoretical axioms rather than popular maxims. Throughout the 1990s and the first few years of the 21st century, interest in power rose at a strong and steady rate.

In the middle of the 1st decade of this century, there began a massive surge of empirical work on the topic of power. This wave did not confine itself to the pernicious and nefarious effects of power. Rather, this explosion of research investigated a wide range of effects, both positive and negative. As Figure 16.1 illustrates, the top four journal outlets for social psychological research—the *Journal of Personality and Social Psychology, Psychological Science, Journal of Experimental Social Psychology,* and *Personality and Social Psychology Bulletin*—nearly doubled the number of published articles on power in the past 5 years relative to the preceding 5 years.

Two factors coincided to produce the explosion of power research at the individual level of analysis in the decade before the publication of this chapter.

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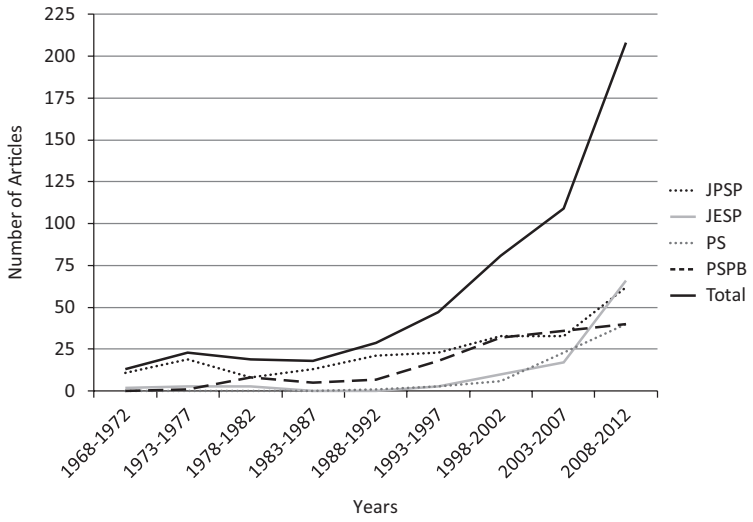

FIGURE 16.1. The rise of research on power: Count of articles about power appearing in the *Journal of Experimental Social Psychology* (*JESP*), *Journal of Personality and Social Psychology* (*JPSP*), *Personality and Social Psychology Bulletin* (*PSPB*), and *Psychological Science* (*PS*) by 5-year period, 1968–2012. Results were obtained using the Web of Science search engine.

First, Keltner, Gruenfeld, and Anderson (2003) introduced a new theoretical lens—the approach–inhibition theory of power—that reoriented researchers and stimulated new predictions about power in many different domains. Second, Galinsky, Gruenfeld, and Magee (2003) offered a methodological innovation—an episodic recall task that asked people to reflect on an experience with power—that allowed researchers to easily manipulate power in a wide variety of research contexts (e.g., in the laboratory, in the classroom, in surveys).

The subsequent increase in power research demonstrates that a theoretical model and a simple, easy-to-implement method help secure traction for a research topic. Each one can individually stimulate a research area, but the combination of the two—a theory and a simple, flexible, and efficient method—can be a true catalyst for an area of research to explode. Have theory and method, will travel.

In this chapter, we provide a primer on the social psychological study of power and capture emerging themes that we think are likely to develop into the next wave of research on power. To accomplish this objective, we begin the chapter by offering a clear definition of power. We then pay homage to the prior waves of power research by discussing the antecedents (in the form of manipulations and measures) and consequences that bracket the psychological experience of power as well as critical moderators. Figure 16.2 provides a conceptual map for these parts of the chapter. Subsequently, we discuss theories about how power guides and directs behavior. We close by setting an agenda for future research. Our goal is to provide a formative review of new and emerging themes on the study of power, a review that can be used both by individuals new to the domain of power and by more seasoned researchers as they set their future research agendas.

DEFINITION OF POWER

We define social power using the same definition as Magee and Galinsky (2008): asymmetric control over valued resources in a social relationship (for related definitions, see Blau, 1964; Fiske, 2010; Thibaut & Kelley, 1959).

A key reason for using the word *asymmetric* and defining social power in a particular social relationship is that this definition captures the relative state of dependence between two or more parties (individuals or groups; Emerson, 1962) and distinguishes social power from other forms of control (e.g., self-control). Indeed, many power-related theories revolve around this issue of dependency. For example, Thibaut and

Kelley's (1959) interdependence theory makes the comparison level of alternatives a central component of power in close relationships. When power exists between two parties, one party is more dependent on the other party than vice versa. When no power exists between two parties, then either the parties are not dependent on each other (i.e., a state of independence between two parties) or they are equally dependent on each other (i.e., a state of mutual dependence between two parties).

We use the term *valued* because the resource must be important or consequential, objectively or subjectively, to at least one of the two parties. To the extent that an individual has or lacks power in a relationship, one must look both at the value each party assigns to the resources in question and at their alternative routes to acquiring those resources. A high-power person who controls a resource only has power over another individual to the extent that the other person values the resource the first person possesses and has few alternative means to acquire it.

This definition allows one to understand the dynamic and subjective nature of power across situations and contexts. For example, a professor can control a graduate student's career advancement, but the graduate student can have technical expertise on which the professor depends. A teacher controls students' grades, but on the last day of class, students have power over the teacher's evaluations; the students have more power to the extent that the professor's raises or own subjective well-being depends on those evaluations.

Overbeck and Park (2001) distinguished between social and personal power (see also van Dijke & Poppe, 2006). Social power involves control over a resource that others value; the less powerful person is dependent on the powerful person to meet his or her needs. Personal power involves control over one's own access to resources and therefore involves lack of dependence on others. Personal power, it could be said, is equivalent to the concept of autonomy. Lammers, Stoker, and Stapel (2009) have argued that these two types of power can have unique effects on behavior. This distinction is potentially important, but one empirical difficulty is that manipulations of social power often simply involve control over a greater number of valued resources than do manipulations of personal power. Whether social power is different from personal power in magnitude as well as in kind remains to be seen.

The definition of power we present here can be connected to, but also distinguished from, previous definitions of power that involve the constructs influence, resistance, or conflict (for a thorough review, see Magee & Galinsky, 2008). We should also note that three of French and Raven's (1959) famous five bases—reward, coercive, and expert power—relate directly to control over valued resources and thus fall under our definition of power. In contrast to French and Raven, we conceptualize legitimacy not as a base of power but as an independent construct; doing so allows researchers to explore how legitimacy moderates the effects of power. Their final base of power—referent power—can be likened to social status, which we define as respect and admiration in the eyes of others (see also Magee & Galinsky, 2008). More important, status is conceptually orthogonal to power (Fiske, 2010; Fiske & Berdahl, 2007; Magee & Galinsky, 2008), a topic we turn to later in the chapter.

MANIPULATIONS AND MEASURES OF POWER

In this section, we discuss the different ways in which power has been manipulated in social psychological research. In doing so, our objective is to provide a simple guide for how power can be studied empirically. We divide these manipulations into four categories of manipulation that serve to affect one's sense of power. The first category consists of structural manipulations that involve varying control over a resource, typically within the context of a laboratory experiment. The second category involves activating the experience of power via episodic recall or an imagined role manipulation. The third category involves semantically or visually priming the concept of power, using word puzzles, scrambled-sentence tasks, or photos. The final category involves altering an individual's physical posture or nonverbal behavior and builds on work on embodied cognition. In addition to these manipulations, we consider popular individual difference measures that are considered to be related to power and are used in correlational research designs (see Figure 16.2).

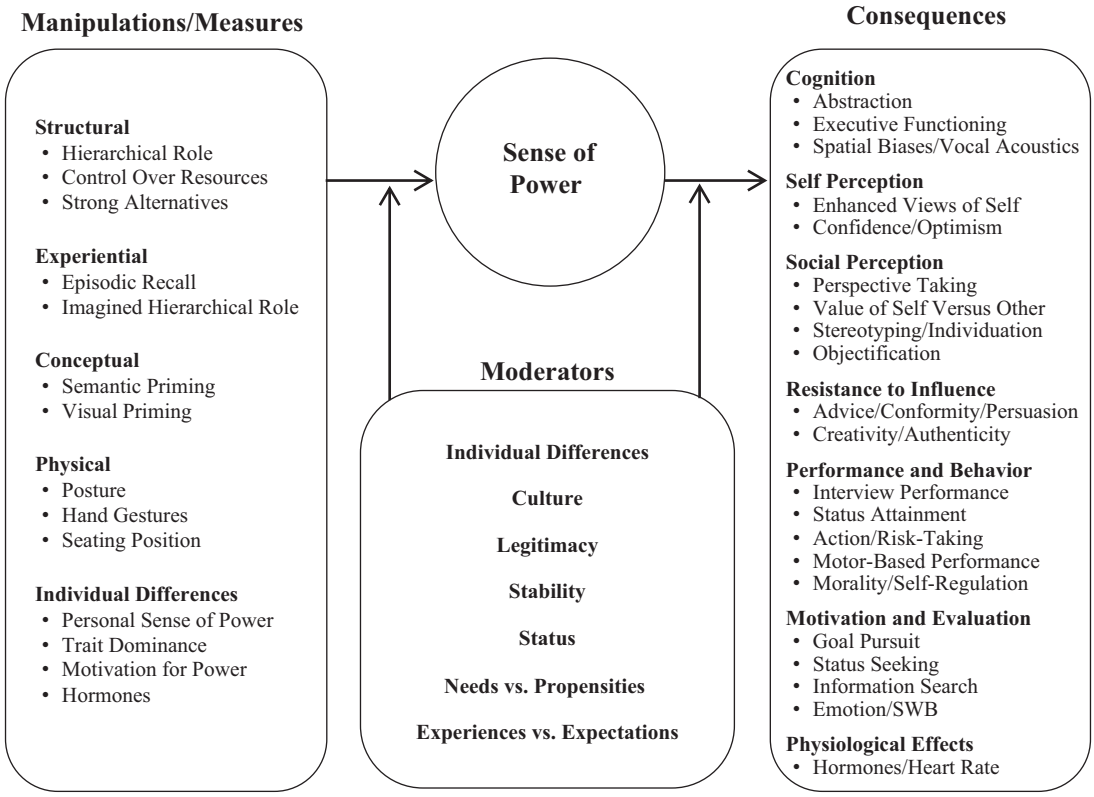

FIGURE 16.2. Organizing framework for the psychology of power. The manipulations and measures of power create a sense of power that then produces a range of cognitive, behavioral, and physiological consequences. The moderators of power can alter (a) whether power produces a sense of power or (b) whether a sense of power produces a particular outcome.

Structural Manipulations

Hierarchical role. A manipulation of power that has high external validity, personifies our definition of power, and fits with lay conceptualizations of power is the boss–employee manipulation. Kipnis (1972; Kipnis et al., 1976) was one of the first to manipulate power in a lab environment. In the Kipnis studies, everyone played the role of manager, but only some of the participants had reward and coercive power in their role.

Building on this experimental method, Anderson and Berdahl (2002) extensively pretested various components of a boss–employee manipulation and created what is now the gold standard for role-based power manipulations. In their manipulation, participants first complete a Leadership Questionnaire and are told that their responses will be used to assign them to the role of manager–boss or subordinate–employee. The experimenter ostensibly scores the questionnaire and assigns participants to the high-power or low-power role. The boss is given instructions that emphasize that he or she will have complete control over the work process, the evaluation of the subordinates, and the division of rewards. Thus, the person in this role controls processes, individual outcomes, and the distribution of valuable resources. The employee is told that he or she will have no control over how the work is performed, evaluated, or rewarded.

Control over resources. Although it lacks the multidimensionality of many power dynamics in the real world, the manipulation of power that most personifies our definition of power is to give people asymmetric control over a resource. For example, Galinsky et al. (2003, 2006) had participants take part in a resource allocation task that involved the distribution of tickets for a lottery for a $300 dinner at a local restaurant. In this modified version of a dictator

game, high-power participants had power by dictating the distribution of seven lottery tickets between themselves and another participant. Low-power participants had no control over the distribution.

Researchers have also used the ultimatum and dictator games to instantiate power (Roth, 1995; Sivanathan, Pillutla, & Keith Murnighan, 2008). In an ultimatum game, two parties decide how to allocate a resource (e.g., $10). One member (the offerer) suggests a proposed division. If the other participant (the receiver) accepts the offer, then the money is divided according to the proposed proportions. If the receiver rejects the offer, then both parties receive nothing. In the ultimatum game, the offerer has more power than the receiver because the offerer set the terms of the division. However, there is some constraint on the offerer's power because the receiver is able to choose whether to accept the proposed division. The fact that the offerer gets on average significantly more than 50% of the divided money empirically confirms that the offerer has greater power. In the dictator game, the offerer has complete control over the division of a resource. The receiver can reject his or her allocation but cannot affect the offerer's outcome.

Suleiman (1996) created a manipulation that allows researchers to vary the power difference along a continuum from the weaker power of the ultimatum game to the greater power of the dictator game. He did so by adding a discount factor, delta ($0 \leq \delta \leq 1$). A rejection of the offer by the receiver in a standard ultimatum game produces a 0–0 outcome. In the modified version (the delta game), rejection of the offer leads to a multiplication of the proposed outcomes for the offerer and the recipient by delta. For example, when $\delta = 0.5$, rejection of a 70–30 offer leads to a multiplication of outcomes for both players by 0.5, resulting in a 35–15 division. The delta game covers the entire continuum between a standard ultimatum game and a dictator game. When $\delta = 0$, it is identical to the standard ultimatum game, and when $\delta = 1$ it is identical to the standard dictator game.

Strong alternatives. In the context of negotiations, the strength of two parties' alternatives defines the power relationship between them. Typically, negotiation power comes from one's best alternative to a negotiated agreement. Having a strong best alternative to a negotiated agreement gives a negotiator power because it makes him or her less dependent on an opponent for acquiring desired resources (Fisher, Ury, & Patton, 1991; Kim, Pinkley, & Fragale, 2005; Mannix & Neale, 1993; Pinkley, Neale, & Bennett, 1994; Sondak & Bazerman, 1991). For example, Magee, Galinsky, and Gruenfeld (2007) manipulated power in an employment negotiation by assigning negotiators a best alternative to a negotiated agreement (e.g., an attractive alternative job offer that gave them power) or by not providing them with an alternative job offer (low power). Pinkley et al. (1994) manipulated not only the presence of an alternative but also the strength of the alternative.

Experiential Manipulations

Episodic recall. Galinsky et al. (2003) introduced a power manipulation in the form of a simple writing task. They asked participants to recall and write about a personally relevant experience with power. Participants assigned to the high-power condition recalled and wrote about an experience in which they had power over another person—power was defined in their original manipulation as "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" (p. 458). In contrast, participants assigned to the low-power condition recalled and wrote about an experience in which someone had power over them. In addition, a variety of instantiations of this manipulation have been shown to activate power. For example, Rucker, Dubois, and Galinsky (2011) subtly embedded the recall task in a print advertisement by simply providing a slogan in the advertisement that read, "Remember a time you felt powerful?"

Galinsky et al. (2003) created the episodic recall task because they were concerned that the structural manipulation of power in which the high-power role directs, evaluates, and distributes rewards would produce confounds and thus alternative explanations for how power affects action tendencies. The

powerful could act, not because of their power per se, but because high-power roles require more cognitive resources that otherwise might be deployed to inhibit action or because of prescriptive norms suggesting that people in a high-power role should act. This recall task allows researchers to activate the experience of power in a way that is meaningful to participants without actually altering the objective or structural level of power in a given situation. Thus, this priming procedure allows researchers to activate power without differentially affecting the cognitive capacity or role-based norms of high- and low-power participants. This task is presented as separate from the dependent variable of interest, and very few participants detect any relationship between the tasks or can articulate the hypothesis of interest.

Imagine hierarchical role. Dubois, Rucker, and Galinsky (2010) have shown that a boss–employee simulation manipulation that is purely hypothetical can also be used to manipulate power. Dubois et al. asked people to simulate being the boss or employee of a hypothetical company and to vividly imagine what it would be like to be in this role (i.e., how they would feel, think, and act). They found that this simple exercise of imagining oneself in a high or low-power role was enough to significantly affect people's sense of power.

Conceptual Manipulations

Semantic priming. Building off the seminal work on priming by Higgins (1996) and Bargh, Chaiken, Raymond, and Hymes (1996), researchers have also manipulated power by exposing people to power-related words. These manipulations allow researchers to activate the construct of power outside of participants' awareness. One version involves a word-completion task in which participants are presented with word fragments and asked to complete the words by filling in the missing letters (e.g., "P O W _ _" is completed as "P O W *E R*"; Anderson & Galinsky, 2006; Bargh, Raymond, Pryor, & Strack, 1995; Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008). Another version involves a scrambled-sentences task in which participants unscramble sentences containing a word related either to low power (e.g., *subordinate*) or to high power (e.g., *authority*; Smith & Trope, 2006). Researchers have even subliminally primed participants with words related to power (see Bargh et al., 1995). As with the episodic recall manipulation, this task is presented as an task independent from the core dependent measure. Few, if any, participants successfully guess the hypotheses of interest.

Visual priming. Power can also be primed through visual imagery. For example, Torelli et al. (2012) demonstrated that the concept of power could be successfully activated by showing participants photos (e.g., image of executives disembarking from a private jet). Other research outside the domain of power has established the effectiveness of using visual imagery to prime particular constructs (e.g., Hong, Morris, Chiu, & Benet-Martinez, 2000).

Implications of Priming Power

The experiential and cognitive manipulations demonstrate that power not only resides within social relationships, as a basis of hierarchy, but also that the concept of power is a mental construct that can be primed. Bargh et al. (1995) were the first to conceive of power this way and to suggest that power could have nonconscious, automatic effects on behavior. Research on the priming of power has demonstrated that the tendencies associated with different levels of power are stored in memory, available for activation whenever one's power is made salient in a given situation.

Physical Manipulations

The concept of power can also be manipulated through individuals' physical actions and gestures.

Posture. Carney, Cuddy, and Yap (2010) demonstrated that power could be activated by one's posture by placing people into an expansive pose (presumed to create a state of high power) or constrictive pose (presumed to create a state of low power). For example, one high-power pose involved participants leaning back in a chair with arms behind their head and legs on the table; one low-power pose involved participants slouching forward with their hands between their legs (see also Huang, Galinsky, Gruenfeld, & Guillory, 2011). Carney

et al. (2010) used two posture manipulations: (a) a posture in which people speared their hands and leaned on a desk and (b) a posture in which people leaned back and put their feet on a desk.

Hand gestures. Schubert and colleagues (Schubert, 2004; Schubert & Koole, 2009) have shown that a sense of power can be manipulated by physical gestures with one's hand: Participants in the high-power condition were asked to make a fist with their nonwriting hand throughout the experiment. In the baseline condition, participants were told to keep their nonwriting hands in a relaxed position throughout the study. These subtle physical gestures were shown to affect participants' sense of power and subsequent behavior.

Seating position. Chen, Lee-Chai, and Bargh (2001) have also used a symbolic association with power—seating position—to manipulate power. In their study, the manipulation took place in a professor's office. Participants in the high-power condition sat in the cushioned professor's chair, which was situated behind the desk and raised higher than the other chair. Participants in the low-power condition sat on the other side of the desk in a short and relatively uncomfortable wooden chair (see also Briñol, Petty, Valle, Rucker, & Becerra, 2007). These subtle seating positions were shown to activate the concept of power and either lacking or possessing power.

Manipulating the Moderators of Power

Many of the preceding manipulations allow people to test for moderators of power, a topic we turn to later. For example, a structural manipulation of power can be constructed to be stable and last throughout the experiment or can vary depending on what happens during the experiment (Jordan, Sivanathan, & Galinsky, 2011). The assignment to a hierarchical role can be legitimated, for example, by assigning participants to positions of power according to their responses on a leadership questionnaire (see Anderson & Berdahl, 2002), or it can be assigned illegitimately on the basis of some extraneous factor, such as a demographic characteristic. For example, Lammers, Galinsky, Gordijn, and Otten (2008) told participants they would normally be assigned to be the employee or manager role but would nonetheless be assigned to the other role because the researchers preferred to have the opposite gender in the other role. The status of the position of power that people are assigned to can also be manipulated; that is, the role can be infused with either respect or disrespect (Fast, Halevy, & Galinsky, 2012).

The experiential primes can also be used to test for moderators. Researchers can have participants recall an incident in which they had power or lacked power but in which this power difference was deemed by them to be stable or unstable, having or lacking status, legitimately or illegitimately acquired, and so forth. Similarly, in the boss–employee simulation task, participants can be asked to simulate the experience of being in a powerful or powerless position that was stable, legitimate, respected, or any other moderator that a researcher is interested in.

Even the semantic priming methods can be used to explore the effects of moderators of power. For example, Lammers, Gordijn, and Otten (2008) embedded words related to high or low power and words related to legitimacy (e.g., *fair, just*) or illegitimacy (e.g., *unfair, unjust*) within a single word puzzle, thereby semantically pairing the two concepts of power and legitimacy.

Individual Differences

In addition to situational factors, myriad individual difference measures are associated with power. These measures are designed to demonstrate that (a) individuals scoring higher on the measure are more likely to hold positions of greater power, (b) individuals in positions of greater power score higher on the measure, or (c) the correlation between the measure and another variable is similar to the pattern of results produced by a manipulation of power. We discuss four such measures that have received significant attention from power researchers.

Personal sense of power. Capitalizing on the notion that power transforms individual psychology and influences individuals' subjective sense of control (Fast, Gruenfeld, Sivanathan, & Galinsky, 2009), Anderson, John, and Keltner (2012) developed the Personal Sense of Power Scale to capture

individual variation in one's perceived ability to influence other people. The items can be tailored to reflect one's influence over another individual in a specific relationship, across relationships within a specific context (e.g., in one's workplace), or one's general sense of influence across contexts and relationships. The scale has good external validity because individuals who occupy managerial roles at work and have more power report feeling more powerful than those occupying subordinate roles.

The Personal Sense of Power Scale can also be used to capture a person's current feelings of power, and thus it can also be effectively used as a manipulation check, as a way to understand variation in how people respond to power manipulations (e.g., Chen, Langner, & Mendoza-Denton, 2009), or as a mediating mechanism (Anderson & Berdahl, 2002; Fast, Sivanathan, Mayer, & Galinsky, 2012; see also Shnabel & Nadler, 2008). Indeed, each of the manipulations of power described previously has been shown to affect people's psychological sense of power, that is, how powerful one feels at a given moment in time. By exploring and understanding people's sense of power, researchers can also examine situations in which one objectively has power but does not psychologically feel powerful.

Trait dominance. Trait dominance is "the tendency to behave in assertive, forceful, and self-assured ways" (Anderson & Kilduff, 2009, p. 491), which can be related to the possession of power. Trait dominance is typically self-reported, although peer reports of targets' dominance could conceivably be used. Regardless of how trait dominance is measured, clarity about what constitutes dominance is critical to the measurement process, because men and women perceive different behaviors as dominant (Buss, 1981; Schmid Mast & Hall, 2004; cf. Carney, Hall, & LeBeau, 2005). Two measures of trait dominance—the dominance scales in Gough's (1987) Personality Research Inventory and in Jackson's (1974) Personality Research Form—have been used extensively (Aries, Gold, & Weigel, 1983; Buss & Craik, 1980; Georgesen & Harris, 2000; Goodwin, Operario, & Fiske, 1998; McClelland, Koestner, & Weinberger, 1989; Operario & Fiske, 2001; Pratto, Sidanius, Stallworth, & Malle, 1994). Anderson and colleagues (Anderson & Berdahl, 2002; Anderson & Kilduff, 2009) have used dominance items from the Revised Interpersonal Adjective Scales (Wiggins, Trapnell, & Phillips, 1988).

One issue with this measure is that it is important to separate trait dominance, which is stable across contexts, from observable dominance behavior, which can vary across contexts (Dovidio, Ellyson, Keating, Heltman, & Brown,1988). When individuals' dominance behavior is assessed, it ought to be treated primarily as a downstream consequence of a self-report measure. Self-report measures of dominance are typically positively correlated with dominance behavior (Buss & Craik, 1980), but situations in which self-report measures do not predict corresponding behavior are interesting exceptions that demand further study.

Motivation for power. The power motive captures the extent to which people value having power. Traditional measures include both the desire to influence others and a concern with one's status (McClelland, 1970, 1975, 1985; McClelland & Wilsnack, 1972; Winter, 1973; Winter & Stewart, 1978). Further refinement of the construct has led some researchers to emphasize the importance of teasing apart different types of power motives on the basis of whose interests the individual imagines serving with power (Magee & Langner, 2008). One can desire to have influence over others either for self-serving and antisocial goals (personalized power motive) or for goals that are profitable for others (socialized power motive; McClelland & Wilsnack, 1972; see also Winter & Stewart's [1978] hope of power and fear of power).

An important choice facing power-motive researchers is whether to use an implicit or an explicit measure because they produce empirically independent scores (Brunstein & Maier, 2005; Kehr, 2004; King, 1995; but see Emmons & McAdams, 1991) and effects (e.g., Spangler, 1992; for reviews, see McClelland et al., 1989; Schultheiss, 2001; Woike, Mcleod, & Goggin, 2003). The Thematic Apperception Test has been the most common measure of the implicit power motive (Atkinson, 1958; Schultheiss & Brunstein, 2001; Schultheiss et al., 2005; Winter, 1991), but other written responses to a motive-eliciting stimulus or situation have been

used as well (Emmons & McAdams, 1991; Langner & Winter, 2001; Magee & Langner, 2008). Implicit power motive determines the hedonic value derived from situations that satisfy a need to exert influence (Koestner, Weinberger, & McClelland, 1991; McClelland et al., 1989; Pang & Schultheiss, 2005; Schultheiss & Pang, 2007). Explicit power motive is self-reported, as are the other individual differences reviewed here (McClelland et al., 1989), and functions like a value, as a guiding principle in one's life. Power motives can also be manipulated (McClelland et al., 1989; Spangler, 1992). For example, Langner and Winter (2001) manipulated imagery associated with power in one experiment to vary the strength of elicitation of power motives.

Hormones. Both testosterone and cortisol are related to dominance behavior (Mehta, Jones, & Josephs, 2008; Mehta & Josephs, 2010) and to power motives (Schultheiss et al., 2005; Wirth, Welsh, & Schultheiss, 2006), so it is not surprising that they are thought of as biological markers of power. High testosterone and low cortisol appear to be the hormonal profile of high power, whereas low testosterone and high cortisol characterizes people in conditions of low power (Carney et al., 2010; Mehta & Josephs, 2010). These hormones are part of a dynamic neurobiological system sensitized to hierarchical position, responsive both to prospective and to recent changes in rank (Mehta & Josephs, 2010; Schultheiss et al., 2005). However, they are also complicated measures of power because the dynamic nature of testosterone and cortisol requires accounting for diurnal hormone cycles, a pretest and posttest to accurately measure hormone change, and the resources for the requisite medical laboratory analyses.

CONSEQUENCES OF POWER

Research has established that power has profound effects on individuals' cognition, self-perception, social perception, motivation, performance, behavior, and even physiological states. Collectively, this research suggests that one's sense of power is a key proximate variable that predicts behavior.

The fact that the many different manipulations of power reliably alter one's sense of power and that these manipulations have an impact on so many different outcomes raises the question of what accounts for their robustness. We believe the ease of manipulating power and its panoply of consequences arises, at least in part, because social hierarchy is the predominant form of social organization across cultures and across species. Indeed, several functional theories of hierarchy propose that hierarchy is ubiquitous because hierarchy solves the inherent problems associated with organizing a collection of individuals (Gruenfeld & Tiedens, 2010; Halevy, Chou, & Galinsky, 2011; van Vugt, Hogan, & Kaiser, 2008): It facilitates coordination, reduces conflict, motivates members of a group to contribute to the group, and ultimately fosters goal attainment (Magee & Galinsky, 2008). Remember that power varies from situation to situation, depending on the specific resource and particular relationships in which one is embedded. For hierarchy to function as an organizing principle, it is critical that people quickly and accurately identify their relative power in any situation and within any particular relationship. Therefore, people must be attuned to their level of power and have a range of behavioral repertoires that get activated depending on one's power in a given situation.

In this section, we provide illustrative examples of some of the most provocative effects of power, with a special emphasis on more recent findings. Our goal is not to provide an exhaustive list of all the findings related to power but to provide a primer for researchers less familiar with the construct or with recent advances on the topic.

Cognition Processes

Abstraction. The experience of power is associated with how people mentally represent their world. High power leads people to construe information more abstractly (Magee & Smith, 2013; Smith & Trope, 2006), focusing more on the gist of information (vs. concrete details) and categorizing information and objects at superordinate levels (vs. subordinate levels). For example, Smith and Trope (2006) found that high-power individuals are more prone to identify a behavior or action (e.g., voting) at a higher level (e.g., changing the government), whereas low-power individuals are more prone to identify the behavior at a lower level (e.g., marking a ballot). Similarly, Magee, Milliken, and Lurie (2010)

found that individuals in positions of power, such as government officials, described the events during the aftermath of the 9/11 terrorist attacks at a more abstract level than did individuals who had little or no power, such as volunteers or victims. Extending this work, Miyamoto and Ji (2011) found that power promoted the use of analytic cognitive processing: High-power participants, those who had thought about influencing someone else, were more likely to use abstract linguistic categories (i.e., adjectives) than those who had thought about adjusting their behavior to others.

Executive functioning. Smith, Jostmann, Galinsky, and van Dijk (2008) demonstrated that low power tends to impair executive functioning compared with high power. Specifically, they found that powerless participants exhibited impaired performance on executive functioning tasks associated with updating, inhibiting, and planning. In one experiment, Smith et al. found that low-power participants made more errors on incongruent trials of the Stroop task (see Stroop, 1935) than both high-power and baseline participants.

Findings have suggested that power also affects basic cognitive abilities related to mathematics. Much of this work has been studied in the context of sex differences in math performance. For example, Guiso, Monte, Sapienza, and Zingales (2008) found that countries in which women had more power in terms of opportunities to participate in economic and political life also had a smaller gender gap in math ability (see also Hamamura, 2012). Harada, Bridge, and Chiao (2012) manipulated power and replicated this broader finding. Women primed with high power performed better on approximate math calculations; furthermore, this neural response within the left inferior frontal gyrus, a region associated with cognitive interference, was reduced for high-power women (Harada et al., 2012).

Spatial biases. Power has also been linked to differential brain activity and elementary spatial biases. Increases in power have been shown to lead to a heightened activation of the left hemisphere, whereas decreases in power have been shown to lead to a heightened activation of the right hemisphere (see Boksem, Smolders, & De Cremer, 2012). For example, in one experiment, low power, which is associated with right hemispheric activation, led participants to be more inclined to bisect horizontal lines to the left of center (Wilkinson, Guinote, Weick, Molinari, & Graham, 2010), which occurs because right hemispheric control is accompanied by leftward deviation.

Vocal acoustics. Not only does power affect basic cognitive processes, but it also alters vocal acoustics. Ko, Sadler, and Galinsky (2013) had participants read a baseline passage, then manipulated power before an ostensible negotiation and subsequently had participants read a passage as if they were starting the negotiation. This procedure allowed the researchers to control for baseline acoustics within speakers and therefore capture hierarchy-based acoustics. They used the vocal recording to precisely measure six acoustic cues—the mean and variability in pitch, resonance, and loudness. They found that the voices of high-power speakers were higher pitched, less variable in pitch, and more variable in loudness than low-power voices. They also analyzed Margaret Thatcher's voice before and after she became the British prime minister (Gallafent, 2008). On her election, Thatcher went through extensive voice coaching designed to help her present a more powerful persona. Consistent with Ko et al.'s experimental participants, Thatcher's voice became higher in pitch, less variable in pitch, and more variable in loudness after she became prime minister. Thus, untrained speakers' momentary vocal changes induced by power were similar to those of someone who was trained to express authority in her voice.

These findings contradict lay theories on how power affects the voice, especially with regard to pitch. Indeed, Stel, van Dijk, Smith, van Dijk, and Djalal (2012) found that getting people to lower their voice made them feel more powerful and think more abstractly. Elsewhere, research has found that dominance is associated with lower pitch (Apple, Streeter, & Krauss, 1979; Ohala, 1982). A crucial distinction is that dominance-based pitch captures individual differences in baseline pitch and is tied to physical characteristics of the body. Hierarchy-based pitch is about change in pitch within individuals, independent of baseline pitch.

Self-Perception

Enhanced views of the self. Power has been shown to enhance how positively people view the self. For example, Wojciszke and Struzynska-Kujalowicz (2007) found that experiential and role-based manipulations of power increased state self-esteem and increased the better-than-average effect, and Fast et al. (2009) replicated this effect using the Rosenberg Self-Esteem Scale. Power also leads people to feel more confident in their own knowledge (Fast, Sivanathan, et al., 2012; See, Morrison, Rothman, & Soll, 2011; Tost, Gino, & Larrick, 2012). In Magee et al.'s (2010) examination of how people talked about the 9/11 attacks, they found that power holders expressed more confidence than powerless individuals in the aftermath of the attacks.

The powerful also have enhanced views of themselves physically. Specifically, they see themselves as larger. Duguid and Goncalo (2012) found that manipulating power through experiential primes or roles led people to see themselves as physically taller and to select a taller avatar to represent themselves in a video game. The powerful also tend to underestimate the size of other people (Yap, Mason, & Ames, 2013).

Confidence and optimism. Relative to powerless individuals, powerful individuals also expect better outcomes for themselves in the future. Anderson and Galinsky (2006) found that power was associated with more optimistic perceptions of the future. For example, in one experiment by Anderson and Galinsky, people with a higher chronic sense of power believed they would experience more positive events such as enjoying their job, having the value of their home increase, and having their achievements displayed in a newspaper. Power also exacerbates the planning fallacy; power leads people to be more optimistic and less accurate in predicting how long a task will take to complete (Weick & Guinote, 2010). In sum, the powerful see themselves and their world through rose-colored glasses.

Social Perception

Perspective taking. A variety of research findings have suggested that, compared with lacking power, having power is associated with a reduced ability to take the perspective of others (Galinsky, Magee, Inesi, & Gruenfeld, 2006; Keltner & Robinson, 1997). As one example, Galinsky et al. (2006) instructed participants in a state of high or low power to draw an *E* on their forehead. Compared with low-power participants, high-power participants were more inclined to draw the *E* as if they were reading it, leading to a backward and illegible *E* to other people. This is consistent with the notion that high-power participants were more focused on the self and less focused on the perspective of others, whereas the reverse was true among low-power participants.

Given that powerful individuals tend to be less concerned with taking others' perspectives, Lammers, Gordijn, and Otten (2008) reasoned that the powerful would also be less inclined to activate metastereotypes. Metastereotypes are stereotypes people hold about how out-groups perceive their in-group (e.g., "I think other groups think we are smart."). Accurate metastereotypes can be useful sources of information because they can help groups navigate social interactions. Lammers, Gordijn, and Otten (2008) reasoned, and demonstrated, that powerless individuals, who are typically motivated to understand how others see them, engaged in significantly more metastereotyping than powerful individuals.

Research by Van Kleef et al. (2008) demonstrated that the inclination of power holders to ignore others' perspectives leads powerful individuals to be less empathic toward others' suffering. To test this idea, in one experiment, Van Kleef et al. had participants in same-sex dyads disclose experiences that had caused them personal suffering and pain. Participants with a higher chronic sense of power experienced less distress, experienced less compassion, and exhibited greater autonomic emotion regulation when listening to another participants' suffering than did those with a lower chronic sense of power.

Value of self versus other. Research has also found that states of high and low power have systematic effects on individuals' propensity to allocate resources to themselves versus others. Powerful individuals tend to spend more on themselves, whereas powerless individuals tend to give more to

others. For instance, Rucker et al. (2011) found that a state of power led individuals to spend more on a t-shirt purchased for themselves than on a t-shirt purchased for another person. In contrast, a state of powerlessness led individuals to spend more on a t-shirt purchased for others than on the same t-shirt purchased for the self. Similarly, Kraus, Piff, and Keltner (2011) found that individuals higher in socioeconomic status spent a smaller portion of their income on others.

Rucker et al. (2011) discussed how power affects the relative importance of the self versus others. High power essentially provides a signal that one is more important because, by definition, one has more resources and control relative to others. In contrast, low power sends a signal that one is dependent on others. This does not mean, however, that powerful individuals will never spend on others. For example, as illustrated by Chen et al. (2001), goals to serve others may be intensified in high-power individuals (see Rucker, Galinsky, & Dubois, 2012, for further discussion).

Stereotyping and individuation. Fiske (1993) originally proposed that powerful individuals stereotype others, both by default because they have less incentive to pay close attention to others and by design because stereotyping allows powerful individuals to control and box in others. Goodwin et al. (2000) confirmed that powerful individuals do indeed stereotype others. Participants used stereotypes more than individuating information when evaluating targets. Building on the idea that stereotyping is a building block for prejudice, Guinote, Willis, and Martellotta (2010) found that power led to greater implicit prejudice against out-groups.

Overbeck and Park (2001) also examined the effects of power on individuation and obtained two important findings. First, the effect of power on individuation depended on the target's level of power. High-power perceivers were found to individuate low-power targets more than did low-power perceivers. In addition, high-power perceivers showed greater individuation of low-power targets compared with the amount of individuation low-power perceivers showed for high-power targets. Second, individuation by powerful individuals was greater when they were focused on interpersonal connections than when they were focused on completing a task.

Objectification. The finding from Overbeck and Park (2001) that powerful individuals individuated less when task focused speaks to the tendency for powerful individuals to be instrumental in their attention. Those who are powerful are more inclined to attend to the attributes of others that are goal relevant. Gruenfeld, Inesi, Magee, and Galinsky (2008) found that both senior executives and MBA students reported greater objectification in their relationships with a subordinate than with a peer. Furthermore, senior executives, more advanced in the business hierarchy than MBA students, were found to view relationships both with subordinates and with peers in instrumental terms. In another experiment, participants assigned to a high-power condition showed more instrumental views of others than those assigned to a low-power condition.

Resistance to Influence

Power is often conceptualized as the capacity to influence others. A number of research findings have also demonstrated that power psychologically protects people from influence. As a result, power affects the likelihood that people will express their true beliefs.

Advice, conformity, and persuasion. For example, powerful individuals rely on their knowledge and ignore and reject the advice of others (See et al., 2011; Tost et al., 2012). Tost et al. (2012) found that power led people to discount the advice of both nonexperts and experts. Those who are powerful are also more likely to rely on their own subjective experiences, such as ease of retrieval, when forming judgments (Weick & Guinote, 2008).

Briñol et al. (2007) have shown that powerful individuals are less likely to carefully attend to the beliefs expressed by others and such behavior is especially likely when those beliefs are inconsistent with their own (see Fischer, Fischer, Englich, Aydin, & Frey, 2011). As a result, powerful individuals are able to resist the persuasion attempts of others. Furthermore, Eaton, Visser, Krosnick, and

Anand (2009) found that a sense of power led middle-aged individuals to be more resistant to persuasion than either younger or older people.

Galinsky et al. (2008) found that powerful individuals' attitudes were less susceptible to conformity pressures. Participants in one study completed a relatively boring task and were then presented with other participants' favorable task ratings (that were really bogus). They found power shielded individuals from the influence of others' opinions and led them to express their true attitudes and rate the task less favorably. Those who are powerful can successfully resist the pernicious pressure to act like the rest of the herd.

Powerful individuals are also more likely to express their current feelings and attitudes. Anderson and Berdahl (2002) found that power led people to be more inclined to reveal their own opinion in a group discussion. In negotiations, high-power negotiators' own anger focuses their attention and leads them to claim value, whereas low-power negotiators are more influenced by their counterpart's anger, which derails them from what they are trying to achieve (Overbeck, Neale, & Govan, 2010; see also Anderson & Thompson, 2004; Van Kleef, de Dreu, Pietroni, & Manstead, 2006). Hecht and LaFrance (1998) found that, when in a positive mood, powerful individuals were more likely to smile and reveal their mood than powerless individuals.

The fact that powerful individuals turn a blind eye to other people can protect them in competitive situations. For example, negotiators often quickly concede in the face of an opponent's angry expressions. However, power immunizes negotiators from the influence of their opponents' emotional displays, with high-power negotiators conceding less to an angry opponent than to a baseline or low-power negotiator (Van Kleef et al., 2006). Power protects negotiators from being swayed by the strategic displays of emotions that are designed to induce concessions.

Creativity and authenticity. Because powerful individuals are less influenced by others, they are also able to be more creative. Research on creativity (Osborn, 1953) has found that the ideas of other people limit and constrain one's own imagination. Galinsky et al. (2008) found that powerful individuals were less influenced by the ideas of others and produced more novel output.

Given that powerful individuals ignore others and the constraints they impose, it is not surprising that power increases authentic expression (Kifer, Heller, Perunovic, & Galinsky, 2013; Kraus, Chen, & Keltner, 2011). In one study, Kifer et al. (2013) used four rounds of surveys, each representing markedly different primary social roles (general, work, romantic relationship, friendship; Study 1) and found that experiencing power in one domain led to greater feelings of authenticity within that same domain. These findings demonstrate that power can induce a subjective correspondence between internal states, and behavior has positive psychological consequences for power holders.

Performance and Behavior

Interview performance. Lammers, Dubois, Rucker, and Galinsky (2013) found that powerful individuals present themselves more effectively, both orally and in writing. In one experiment, participants submitted a written application for a job. Those primed with power before completing the application were more likely to be selected for the job by independent judges. In a second experiment, Lammers et al. (2013) primed high power, low power, and baseline before a practice interview for entrance into business school. Those primed with high power were more than twice as likely to be selected by the expert judges, who were unaware of the power prime, than those primed with low power. The powerful participants were more likely to be selected because they were seen as more persuasive. Similarly, Schmid and Schmid Mast (2013) had participants make speeches in which they described their strengths. Those primed with power were seen as presenting themselves more effectively. The greater performance by the powerful participants was driven by reduced fear of negative evaluation.

Status attainment. As noted earlier, status and power are conceptually distinct but correlated constructs. They are also causally connected. Kilduff and Galinsky (2013) conducted a longitudinal experiment to demonstrate that priming people with power can lead individuals to attain higher

status. In their study, three people came to the lab at Time 1. One was primed with high power, one was primed with low power, and one was in a baseline condition. The three people then gathered and participated in a group decision-making task. Two days later, the three people returned to participate in a new group task. Participants primed with power achieved greater status both immediately and 2 days later, long after the primes had worn off. Moreover, these increases in status were driven by increased proactive behavior during the very first few minutes of group interaction. These findings support the notion that the psychological state of power produced greater status by creating initial behaviors that then set off self-reinforcing cycles of group interaction.

Action and risk taking. The experience of power has been associated with greater assertive action across a wide variety of situations (e.g., Fast et al., 2009; Galinsky et al., 2003; Magee et al., 2007). Galinsky et al. (2003) manipulated power through a boss–employee manipulation and found that high-power participants were more likely to take a card in a game of blackjack. Those who are powerful are also more inclined to take action in competitive interactions than those who are powerless. Magee et al. (2007) demonstrated that the experience of power led to nearly a four-fold increase in choosing to make the opening arguments in a debate scenario, increased the likelihood of intending to make a first offer in a negotiation by more than three times, and led people to be twice as likely to actually make first offers in a negotiation. Fast et al. (2009) also provided evidence for the link between power and taking action. In one study, participants were told they would receive a reward if they could correctly predict the outcome of a single roll of a six-sided die. Participants were further told that they could choose to roll the die themselves or could have someone roll the die for them. Objectively, the outcome of a die roll is a random event, so whether the participant or another individual rolls the die should have no effect on the outcome. However, Fast et al. found that whereas 100% of high-power participants chose to roll the die themselves, only 58% of low-power participants chose to.

Those who are powerful are more likely to engage in risky behavior. Anderson and Galinsky (2006) demonstrated a clear link between power and risk, such that the powerful were more likely to show greater risk preferences, make riskier gambles and choices, find risky sexual activity more attractive, and resort to risky tactics in negotiations. Powerful individuals took greater risks because they did not think negative outcomes would befall them.

Motor-based performance. Burgmer and Englich (2013) found that psychological states of power can also affect individuals' performance on tasks that require motor skills. High-power participants made significantly more golf putts than baseline participants. In a second experiment, participants primed with high versus low power using a scrambled-sentenced task performed better on a dart-throwing task (i.e., threw the dart closer to the bulls-eye). These authors also provided evidence that such motor-based task performance might have roots in how people cognitively represent goals.

Morality and self-regulation. Many popular sentiments about power suggest that it is connected to moral depravity. Research has found that power leads directly to cheating behavior. Lammers, Stapel, and Galinsky (2010) had participants roll a set of dice to determine the number of lottery tickets they would receive. High-power participants were significantly more likely to overreport their outcomes to benefit themselves. Yap, Wazlawek, Lucas, Cuddy, and Carney (2013) found that expansive postures, which are associated with high power, also led to cheating behavior.

Dubois, Rucker, and Galinsky (2014b) found that powerful individuals are more likely to cheat but only when it benefits themselves. They made a critical distinction between unethical behavior and selfish behavior and showed that the powerful act more selfishly. In contrast, low-power people were more likely to cheat and lie to benefit someone else.

Interestingly, powerful individuals cheat more often but condemn the moral deviations of others. Lammers et al. (2010) found that powerful individuals consistently castigated the moral failings of

others and punished them for their failure to live up to a higher standard.

Lammers and Stapel (2009) explored how power affected how people resolve moral dilemmas. They found that powerful individuals relied on rule-based moral principles, whereas low power increased focus on outcome-based moral thinking and the consequences of behavior. As a result, powerful individuals stick to the rules, whereas powerless individuals are more likely to make exceptions.

Power has systematic but complex effects on self-regulation. DeWall, Baumeister, Mead, and Vohs (2011) found that power often led people to be more effective at self-regulation, even when their self-regulatory resources were depleted. Given that power creates an increased goal focus, high-power individuals can regulate their behavior toward achieving a goal more effectively than low-power individuals. When self-regulation is not connected to a high-priority goal, however, powerful individuals perform worse than powerless individuals.

Motivation and Evaluation

Goal pursuit. Galinsky et al. (2003) proposed that power leads to goal-directed behavior—in effect, power increases the correspondence between goals on one hand and behavior that would satisfy those goals on the other. They created a situation in which all individuals should want to behave in a particular way—to remove an annoying fan—yet the situation made it ambiguous whether the individuals were allowed to do so. They found that a significantly higher proportion of high-power individuals acted to satisfy their needs by removing the fan compared with low-power individuals.

Guinote (2007) found that power both helps people prioritize their goals and prompts goal-consistent behavior, leading to increases in the speed of responses and performance of tasks related to goal pursuit. Across a number of experiments, having power was associated with requiring less information to make decisions regarding a preferred course of action; initiating goal-directed action sooner; greater task performance and flexibility; and the propensity to take action when opportunities arose to satisfy a goal. Power increases the facilitation of goal-relevant constructs compared with other constructs, and this facilitation disappears after goal completion (Slabu & Guinote, 2010). Whitson et al. (2013) found that goal-directed behavior is, at least partially, driven by powerful individuals paying less attention to constraints or obstacles in the environment. Similarly, Inesi (2010) found that power reduced loss aversion by decreasing the anticipated threat associated with a loss. Goal directedness can also explain why powerful individuals are more likely to forgive relationship partners, but only when they feel a strong bond with their partner (Karremans & Smith, 2010).

Power can also validate one's goal. That is, power can reinforce, and make people pursue more diligently, whatever goal they currently have. Chen et al. (2001) demonstrated that, for individuals who were naturally focused on the self, having power led people to behave in a more selfish fashion. However, for individuals naturally inclined to focus on others, having power led to greater generosity than low power. Similarly, DeMarree et al. (2012, Experiment 1) found that the effect of power on behavior depended on the goal that had been activated. When individuals had been primed with a goal to compete, high power led to greater competitive responses than low power. In contrast, when primed with the goal to cooperate, high power led to more cooperative responses relative to low power.

Status seeking. Because a state of low power is aversive, people in such states are known to seek opportunities to gain power (Horwitz, 1958; Worchel, Arnold, & Harrison, 1978). Recognizing that status might serve as an input or correlate of power (see French & Raven, 1959), Rucker and Galinsky (2008) proposed that low power may lead individuals to seek status as one means of compensating for a loss of power. In support of this hypothesis, they found that low-power participants, compared with participants in high-power and baseline conditions, were willing to pay more for an object when it was associated with status than when it was not (see also Charles, Hurst, & Roussanov, 2009; Rucker & Galinsky, 2009; Rucker et al., 2012).

The motivated desire for status among those who are powerless has also been shown to affect how

people represent symbols associated with status. For example, Bruner and Goodman (1947) found that children from lower socioeconomic backgrounds perceived money as larger than those from richer socioeconomic backgrounds. Bruner and Goodman discussed this increase in size as resulting from the greater value associated with money for those from lower socioeconomic backgrounds. Furthermore, in a systematic effort to demonstrate that the experience of power, decoupled from long-standing differences in economic background, could produce differences in how people represent money, Dubois et al. (2010) manipulated power through an episodic recall task and asked participants to draw a quarter. Conceptually replicating Bruner and Goodman's results, participants in the low-power condition drew a quarter as larger than did those in the high-power condition (see also Dubois, Rucker, & Galinsky, 2012).

Information search. Power influences the search strategies used during negotiations. De Dreu and Van Kleef (2004) found that negotiators with low power asked more diagnostic questions as well as more belief-congruent questions when paired with a competitive versus a cooperative partner. De Dreu and Van Kleef discussed these findings from the perspective of a motivated information-processing model, whereby low-power negotiators have stronger accuracy and impression motivation than more powerful negotiators. Consistent with the notion that low-power negotiators have heightened impression motivation concerns, the asking of belief-congruent questions was also shown to produce more favorable impressions during the negotiation.

Elsewhere, Briñol et al. (2007) have shown that power can reduce the amount of information search. Specifically, because power makes an individual feel confident, powerful individuals are less motivated to engage in processing information carefully.

Power also affects selective exposure to information. Fischer et al. (2011) found that making a fist (one of the physical manipulations of power discussed earlier in this chapter) increased participants' preference for decision-consistent over decision-inconsistent information, in terms of both evaluating that information and searching for information. This tendency was mediated by decision certainty, indicating that power increased confidence in one's decision.

Emotion and subjective well-being. The two principal components of generalized affect are positive and negative affect, most commonly measured by the Positive and Negative Affect Schedule (Tellegen, Watson, & Clark, 1988). Alertness and enthusiasm indicate high levels of positive affect, and unpleasantness and agitation indicate high levels of negative affect (Watson & Tellegen, 1985). Langner and Keltner (2008) found that individuals high in power reported more positive affect than their partners and individuals low in power reported more negative affect (see also Gonzaga, Keltner, & Ward, 2008; Lücken & Simon, 2005; Wojciszke & Struzynska-Kujalowicz, 2007). Similarly, Berdahl and Martorana (2006) found that participants assigned to a high-power role experienced more positive affect than those assigned to a low-power role (see also Hecht & LaFrance, 1998).

Despite some findings linking power to emotion, many studies have found no relationship between priming manipulations of power and changes in affective states (e.g., Galinsky et al., 2003; Rucker & Galinsky, 2008; Smith & Bargh, 2008; Smith & Trope, 2006; Weick & Guinote, 2008). It appears that emotional effects of power are more likely to emerge in actual dyadic interactions (Anderson & Berdahl, 2002; Berdahl & Martorana, 2006; Langner & Keltner, 2008), but more research is required to understand when power does and does not exert an influence on one's emotions.

Kifer et al. (2013) found that power enhanced subjective well-being (SWB). In one study, Kifer et al. used four rounds of surveys, each representing markedly different primary social roles (general, work, romantic relationship, friendship; Study 1) and found that experiencing power in one domain led to greater SWB in that same domain. They also experimentally manipulated power to demonstrate that the experience of power causes higher SWB. Both the correlational and the experimental data showed that power increased SWB by increasing feelings of authenticity. Anderson, Kraus, Galinsky,

and Keltner (2012) demonstrated that the experience of power can also explain why social status leads to greater SWB. People who had status in their face-to-face peer groups had higher SWB because their status made them feel powerful.

Physiological Effects

Hormones. Power affects physiological states. Research by Carney et al. (2010) manipulated power using physical posture and examined participants' testosterone and cortisol levels. Individuals instructed to pose in a manner consistent with having power (e.g., open, expansive postures) exhibited an increase in testosterone and a decrease in cortisol. In contrast, individuals instructed to pose in a manner consistent with low power (e.g., closed, contractive postures) exhibited a decrease in testosterone and an increase in cortisol level.

Power has also been shown to increase tolerance for stress. Carney et al. (2013) examined how power affected people's physiological responses to different types of stress. In one experiment, Carney et al. manipulated participants' power using a series of combined and sequential power manipulations (e.g., role assignment, power poses) and then had participants complete the ice water submersion test (Hines & Brown, 1932). This task involves submerging one's hand in a bucket of ice water for as long as is tolerable. The powerful participants also showed less physiological evidence of stress while their hand was in cold water. In addition, those in the high-power condition kept their hand submerged, on average, for longer than those in the low-power condition. Bohns and Wiltermuth (2012) also found that power led to greater pain tolerance.

Furthermore, Carney et al. (2013) found that high power was a general buffer against the negative physiological effects of telling lies. Specifically, after manipulating participants' power, Carney et al. had participants tell lies and measured their cortisol levels. Past research has shown that telling lies leads to elevated cortisol levels. Compared with their cortisol levels before telling a lie, low-power participants showed elevated cortisol levels, consistent with a stress response. In contrast, attesting to the physiological benefits of high power, high-power participants showed no significant elevation in cortisol levels after telling a lie.

Heart rate and cardiovascular stress. Schmid and Schmid Mast (2013) also found a stress-buffering effect of power. Participants were put in a stressful situation by having them make a speech. These researchers found that priming power led to less stress as measured by heart rate. Power also affects cardiovascular markers of stress. Scheepers, de Wit, Ellemers, and Sassenberg (2012) found that power, either experientially primed or created through strong alternatives, created an efficient cardiovascular pattern that occurs when people feel challenged. In contrast, low power produced an inefficient cardiovascular pattern that occurs when people are under threat.

MODERATORS OF POWER

In describing the consequences of power, we have in the preceding sections clearly laid out the transformative effects that power has on individuals. Power alters cognition, motivation, self- and social perception, behavior, and even hormonal levels. However, this does not mean that power only exerts main effects or operates in a monolithic or invariant fashion. In this section, and as acknowledged in Figure 16.2, we highlight several important moderators that affect the relationship between power and a variety of outcomes. Figure 16.2 denotes two paths for how the moderators affect the experience and consequences of power. First, as represented by the arrow that precedes the sense of power, a variable could moderate whether a manipulation or measure of power affects someone's sense of power. Second, as represented by the arrow that follows the sense of power, a variable could moderate whether a sense of power produces a particular consequence. Understanding the moderators of power not only helps to determine when power has its effects but also begins to shed light on why power has the effects it does.

Power Reveals the Person: Individual Differences Moderate the Effects of Power

> When full power is conferred for any length of time (and I call a year or more

> a long time), it is always dangerous, and will be productive of good or ill effects, according as those upon whom it is conferred are themselves good or bad.—Niccoló Machiavelli (1517), *The Discourses*

Here, Machiavelli recognizes that power reveals the person. That is, individual differences interact with power to produce behavioral effects. Thus, the influence of power on behavior is determined in part by the individual characteristics of the power holder. Essentially, power increases the correspondence between individual traits and behavior (Bargh et al., 1995; Chen et al., 2001; Galinsky et al., 2008). That is, the personalities of those who are powerful are better predictors of their thoughts and behaviors than are the personalities of those who are powerless.

As we have already articulated, having power reduces dependence. When people are dependent on others, they are often limited in how they can act, altering their own behavior to fit the whims and tendencies of those on whom they depend. However, with power, the constraints that normally govern thought, expression, and behavior melt away, and people are left with the truest form of themselves.

The past decade of research on power has seen numerous studies that have consistently found that power reveals the person by increasing the correspondence between traits and behavior. In the seminal article in this area, Chen et al. (2001) found that when primed with power, individuals with a communal orientation were more likely to behave generously, whereas those with an exchange orientation behaved in a self-serving manner. In a similar vein, increased power also leads to greater interpersonal accuracy among those who are high in empathy or who are induced to identify with an empathic leadership style (Schmid Mast, Jonas, & Hall, 2009).

As further evidence that power reveals who people are, Bargh et al. (1995) found that priming men with power led them to view female work partners in sexual terms and to flirt more openly with them, but only for those men with a predisposition toward sexual harassment. Here again, the personality of participants primed with power was a better predictor of their behavior than those not primed with power. Maner and Mead (2010) followed up this work and showed that having power increased expectations of sexual interest from a subordinate, but only when participants had an active mating goal and when their mating goal was attainable because the subordinate was romantically available. Gruenfeld et al. (2008) also found that men in a high-power condition expressed greater desire to work with a mediocre female task partner, but only when she was attractive and they had been primed with sex.

Other work has found that powerful individuals are more likely to act in line with their preexisting value orientations. Galinsky et al. (2008) explored the role of social value orientation (Van Lange, 1999), which identifies preferences for allocations between the self and others and classifies people as either proself or prosocial. They found that social value orientation significantly predicted the extent to which high-power negotiators trusted their opponent, but it did not predict the trust levels of participants in a baseline condition. Thus, power led to different levels of trust by amplifying participants' prior value orientations. In related work, researchers have found that prosocial orientation predicts empathic accuracy but only among those who are powerful (Côté et al., 2011). Even in the uppermost echelon of corporations, power influences the extent to which CEOs' political ideology drives their decision making. Firms with liberal CEOs invest in more corporate social responsibility work than do firms with conservative CEOs, and this difference is greater among CEOs with more power (Chin, Hambrick, & Treviño, 2013).

Powerful individuals are also more likely to act consistently with their emotions. Overbeck et al. (2010) found that the behavior of high-power negotiators was driven by their currently held emotions. In contrast, emotions had little effect on low-power negotiators, who instead were affected by the emotions of others. Similarly, Anderson and Thompson (2004) found that the trait positive affect of powerful negotiators shaped the quality of negotiation processes and outcomes more than the trait positive affect of less powerful negotiators.

The fact that powerful individuals act more in line with their dispositional tendencies helps explain cross-cultural differences in the effects of power. Whereas Western cultures tend to place a premium on understanding power as freedom from external constraints and the capacity to satisfy one's own desires, Eastern cultures highlight the virtue of restraint and responsibility on the part of those who are powerful. Congruent with this view, Zhong, Magee, Maddux, and Galinsky (2006) found that culture affected individuals' associations with power. Westerners (i.e., those from independent cultures) subliminally primed with the word *power* (vs. the word *paper*) responded more quickly to reward-related words but more slowly to responsibility-related words. In contrast, East Asians (i.e., those from interdependent cultures) exhibited greater accessibility of responsibility-related words and weaker accessibility to reward-related words. Kopelman (2009) found that culture affected how power was exercised. She found that managers from Western countries took more resources when they had high versus low power because they felt entitled. In contrast, high power led managers from Hong Kong to voluntarily take fewer resources. Similarly, Torelli and Shavitt (2010) found that vertical individualists conceptualized power in personalized and selfish terms, whereas horizontal collectivists viewed power as a means to benefit and help others.

In all of these studies, the dispositions and current psychological states more strongly predicted the behavior of those with power than of those who lacked power. Guinote et al. (2012) have shown that in the absence of strong current psychological states, the dispositions of powerful individuals predict their behavior. When a counterdispositional construct is made accessible, however, the behavior of high-power individuals corresponds to the accessible construct more than does the behavior of low-power individuals. Building on some of the preceding findings (Côté et al., 2011; Galinsky et al., 2008), Guinote et al. explored the effect of social value orientation and primed prosociality on generosity. They found that when prosociality was not primed, social value orientation predicted how generous the powerful individuals were to an experimental partner, but it did not when prosociality had been primed. These findings suggest that the effects of power depend on whatever construct was most accessible in the mind of the power holder.

Importance of Goals

We have discussed how power both shapes the person by altering cognition and behavior and reveals the person by increasing the correspondence between traits and behavior. Many of these separate effects of power can be synthesized through the robust finding that power increases a focus on goals and facilitates goal-directed behavior. The prominence of goals can elucidate how power transforms people into optimistic, abstract-thinking, action-oriented individuals while also revealing the person's personality and magnifying differences grounded in culture.

Consider social perception as an illustrative example. Overbeck and Park (2006) found that goals play a critical role in how power affects social perception. In their studies, when the powerful were pursuing people-centered goals, they individuated their targets by paying increased attention to and remembering more unique information about them, but if they were pursuing product-centered goals, they recalled less correct unique information about their subordinates. Gruenfeld et al. (2008) established that powerful individuals view others through the lens of their currently held goals. In essence, power increases the tendency to view others through an instrumental lens and focuses one's attention on those aspects of others that serve one's salient goals. The goals of those who are powerful are key directors of their social attention.

Other evidence of the relation between power and goal direction comes from research showing that powerless individuals show decrements in executive functioning (Smith et al., 2008). Proper executive functioning requires effective goal focus, and impairments result from difficulty in actively maintaining a goal (Engle, 2002). As a result, lacking power impairs executive functions: These impairments were not because powerless individuals were less motivated or putting in less effort; instead, they had difficulty maintaining a focus on their current goal (Smith et al., 2008).

Legitimacy

French and Raven (1959) described legitimate power as one of the five bases of power. In contrast, we consider legitimacy to be a moderator or qualifier of power. Legitimacy can refer to how power is acquired or how it is exercised. In terms of acquisition, the question is whether the attainment of power is deserved or undeserved. Illegitimacy also refers to whether the position of power is abused. Power can be exercised in a legitimate, role-appropriate manner, or it can be wielded for the sole benefit of power holders and their associates.

Lammers, Galinsky, et al. (2008) proposed that legitimacy changes the fundamental effects of power and is an important determinant of whether power leads to approach behavior (e.g., action, risk taking). As they noted, legitimate hierarchies are cooperative endeavors where those who are powerful act and those who are powerless follow (Arendt, 1969; Aristotle, 1996). However, illegitimate hierarchies replace this cooperative foundation with resistance from below and defensiveness from above (Lenski, 2006; Mills, 1956; Plato, 1998). Therefore, Lammers and colleagues hypothesized that, when legitimate, power would lead to more behavioral approach than powerlessness. However, when illegitimate, this link between power and approach would be broken and even reversed, with those who are powerless showing more action. Consistent with their reasoning, they found that under conditions of legitimacy, powerful individuals showed more approach, took more action, and accepted more risk than powerless individuals; however, when power was tinged with illegitimacy, powerless individuals acted more than powerful individuals (Lammers, Galinsky, et al. 2008). Lammers, Galinsky, Gordijn, and Otten (2012) found a similar pattern of results with respect to self-sufficiency: Only when power was seen as legitimate did power increase social distance and decrease cooperation and willingness to help. Similarly, Willis, Guinote, and Rodríguez-Bailón (2010) found that illegitimacy improved the ability of powerless individuals to be more goal directed, showing greater persistence in the face of difficulties and more flexibility in achieving their goals. These current findings are consistent with past work showing that illegitimacy motivates those who are powerless to show in-group favoritism (Brown & Ross, 1982; Commins & Lockwood, 1979).

These findings suggest that the effects of power depend on what being powerless or powerful means in a given relationship. Legitimate hierarchies have a fabric of cooperation—when one is legitimately lacking in power, one should follow the leader (i.e., cooperate) and delay gratifying one's own desires (i.e., inhibition). In a situation of illegitimacy, the tapestry of cooperation is torn and those who are powerless act against the status quo. Under conditions of legitimacy, those who are powerful approach and lead the way. Lacking legitimacy, powerful individuals become more concerned about protecting their position of power. Thus, the effects of power need to be understood through the symbolic value and meaning attached to positions of power or powerlessness.

Stability

Stability refers to the level of actual or perceived constancy in one's currently held position (Cummings, 1980; Tajfel & Turner, 1979, 1986). One of the dynamic aspects of power is the extent to which current power differences in a relationship are expected to endure. Power holders can feel their grip on valued resources tightening or slipping, and those who are powerless can often sense these changes as they are happening. As power becomes unstable, the behavior of high- and low-power individuals can change dramatically. Sligte, de Dreu, and Nijstad (2011) found a reversal of the positive association between power and creativity under conditions of instability. Mead and Maner (2012) found that leaders high in dominance motivation sought proximity to an in-group member who threatened their power when it was unstable. They reasoned that increasing proximity to less powerful group members is a strategy designed to help leaders protect their own power when they are at risk of losing it.

Keltner et al. (2003) suggested that the stability of the power relationship would likely alter the effects of power on behavioral approach. Following this suggestion, much of the research on the stability of power has focused on risk taking. Maner, Gailliot,

Butz, and Peruche (2007) examined the moderating roles of instability and individual differences in power motivation on risk-taking behavior, typically associated with high power (Anderson & Galinsky, 2006) and found that participants in high-power roles took less risk if they were highly motivated by power. Maner et al. explained these findings by proposing that those high in power motivation acted with greater risk aversion because of their desire to maintain their power. In a second study, they explicitly manipulated the stability of power and replicated the interaction between power and power motivation on risk taking, but only when power was unstable. We should note that Maner et al. did not investigate the role of stability among those lacking power.

To understand how stability might affect the relationship between power and risk, Jordan et al. (2011) looked to the literatures on animal hierarchies, childhood hierarchies, and intergroup hierarchies. They noticed that studies with nonhuman populations (e.g., Sapolsky, 2005) and human groups (Scheepers, 2009) have identified stress as a potential process through which power and stability might interact to affect risk taking. In his work with nonhuman primates, Sapolsky (2005) observed that in stable hierarchies, those who are powerless must constantly vie for access to valued resources, and as a result they suffer the greatest stress-related physiological reactions (Barnett, 1955; Sapolsky, 1993). In contrast, when the hierarchy is unstable, it is those who are powerful, faced with the potential loss of access to resources and prospective mates, who experience the greatest stress-related physiology (Manuck, Marsland, Kaplan, & Williams, 1995; Sapolsky & Share, 1994, 2004).

Across four studies, Jordan et al. (2011) found that unstable powerful and stable powerless individuals preferred probabilistic over certain outcomes and engaged in more risky behaviors in an organizational decision-making scenario, a blackjack game, and a balloon-pumping task compared with stable powerful and unstable powerless individuals. Furthermore, they found that these effects were the result of increased stress. Unstable power and stable powerlessness produced more physiological arousal, a direct manipulation of stress led to greater risk taking, and stress tolerance moderated the interaction between power and stability on risk taking.

One may note that Jordan et al.'s (2011) results seem to contradict the Anderson and Galinsky (2006) findings. However, Jordan et al. offered a parsimonious integration of these seemingly competing findings. Anderson and Galinsky primed power and measured risk taking in an unrelated context. Jordan et al. brought stability to bear on power and linked the risk taking measure to both power and its stability. Integrating these two separate approaches produces the following synthesis: When power or powerlessness is merely primed and risk taking is unrelated to the context of power, the relative activation of the behavioral activation system (BAS) and the behavioral inhibition system (BIS) dominates, leading to a main effect of power on risk taking. However, when power is altered by stability and the risk taking is materially relevant to the stability of power, then the effects of stress resulting from the interaction between stability and power come to bear. The unstable powerful and the stable powerless individuals display the greatest risk-taking behavior.

Status

Power is related to but conceptually distinct from status (i.e., respect and admiration in the eyes of others). Because of the conceptual orthogonality of power and status, researchers have started to explore their interactive effects. Fragale, Overbeck, and Neale (2011) noted that many roles in society afford power but lack status (e.g., airport security, reimbursement administrators, clerks). They found that high-power–low-status individuals were judged the most negatively and seen as dominant and cold. Furthermore, people expected to have the most negative interactions with high-power–low-status individuals.

Fast, Halevy, and Galinsky (2012) provided evidence for why people have these expectations. In their studies, the combination of high power and low status leads people to demean others. Their reasoning is similar to our discussion of how power reveals individuals: Power frees those who lack status to act on the resentment from lacking respect by demeaning others. In contrast, those who lack both

power and status are not free to act on this resentment (and high-status people do not have any resentment). Blader and Chen (2012) found that power and status had opposing effects on justice with status positively associated with, and power negatively associated with, justice toward others. They also found an interaction similar to the Fast, Halevy, and Galinsky findings such that the positive effect of status on justice only emerged when power was low but not when it was high.

One final example that connects the three previous moderators of legitimacy, stability, and status is work by Fast and Chen (2009) showing that powerful individuals act in aggressive and demeaning ways toward others when they feel incompetent in their position of power. When one feels unqualified for one's position, it likely no longer feels legitimate, and the future stability is called into question, which may lead people to worry about the level of respect that others have for them.

THEORIES OF POWER

Researchers in the field of social psychology have made a number of theoretical statements about power. Some were taken up immediately and used for years, others have only recently arrived, and still others have yet to be fully proposed or developed. Our goal in this section is not to endorse one explanation of power over another; rather, we seek to summarize the different possible psychological theories that have been hypothesized to underlie power.

Theories Based on the Need for Control

Although there had been theories of power linked to the economic principles of exchange (Blau, 1964; Homans, 1958), an important theoretical shift toward including psychological principles in the study of power occurred when Fiske and Dépret (1996) drew an explicit connection between the notion of dependence and the need for autonomy and control. They argued that having autonomy in one's environment is a basic need that motivates behavior when it has not been satisfied. Specifically, they argued that when people feel a lack of control, they engage in a compensatory process of seeking out information, particularly about the factors impinging on their autonomy. In the context of power relations, Fiske and Dépret argued that low-power individuals seek to acquire diagnostic information about their high-power counterparts to give them some ability to predict their counterparts' behavior. Information seeking by low-power individuals is, at least in part, motivated by a need to restore control. By contrast, high-power individuals, whose control needs are largely satisfied by their position of power, perceive their counterparts using heuristic strategies, such as attending to expectancy-consistent information and stereotyping. Fiske and Dépret went further, arguing that the attentional strategies of power holders also serve to reinforce their power because if their expectations of subordinates are reinforced, there is no need for the social structure to change.

In outlining their theory, Fiske and Dépret (1996) hoped to find fertile ground for "studying social cognition in its social context" (p. 32). Put another way, they aimed to broaden the view of social cognition by looking at the influence of social structure on social-cognitive phenomena (see also Kipnis, 1972). Ironically, an unintended consequence of this goal was that they also started a trend within social psychology for the study of power to be increasingly about individual social cognition, absent much discussion of social structure.

Guinote (2007) has also argued in her situated focus theory that power operates through the basic need for control. Relying on comparative analyses of hunter-gatherer and agricultural societies showing that hunter-gatherers have fewer constraints on their freedom and are also more selective in their attention (Berry, 1976; Witkin, Dyk, Faterson, Goodenough, & Karp, 1962), Guinote claimed that power holders' autonomy makes them more like hunter-gatherers. Although the leap from hunter-gatherers to power holders is arguably a big one, the core propositions of the situated focus theory—power is positively associated with greater selectivity and flexibility in attention—is supported by Guinote's empirical research.

Approach–Inhibition Theory

By any measure, the most influential theory of power over the past decade has been the

approach–inhibition theory (Keltner et al., 2003). Inspired by Kipnis's (1972) idea that power has metamorphic effects on power holders, Keltner et al.'s (2003) model drastically expanded the scope of phenomena that could be caused by power. As did Fiske and Dépret (1996), Keltner et al. tied power to motivation and proposed that people in low-power positions are oriented toward trying to understand and predict the needs of those who are powerful. However, they suggested that people in high-power positions also have salient concerns: They are oriented toward what they want and how to obtain it.

According to Keltner et al. (2003), these different concerns are governed by the relative activation of two neurobiological systems, the BAS and the BIS. They posited that high-power individuals experience greater activation of the BAS relative to the BIS and low-power individuals experience greater activation of the BIS relative to the BAS. These systems have wide-ranging influence on individual psychology, guiding attention, emotion, and action. Broadly speaking, activation of the BAS leads individuals to attend to potential rewards and to engage in behavior that brings them closer to their goals; in contrast, activation of the BIS leads individuals to attend to potential threats, recognize goal conflicts, and interrupt ongoing behavior (Fowles, 1980, 1988; Gray, 1975, 1982; McNaughton & Gray, 2000).

Two points of ambiguity in the approach–inhibition theory require clarification: the intended meaning of the word *inhibition* and the relationship between the BIS–BAS and emotion. In the context of the BIS, *inhibition* refers to processes related to the interruption of ongoing behavior (see Amodio, Master, Yee, & Taylor, 2008; Hirsh, Galinsky, & Zhong, 2011), both checking the environment for the threat of punishment and, if a threat is detected, stopping what one is doing (Avila, 2001; Gray, 1982). It does not refer to the executive control processes related to goal pursuit (Aron, Robbins, & Poldrack, 2004), such as selective attention and suppression of non–goal-facilitating behavioral responses, which are sometimes referred to as *inhibitory control processes*. Amodio et al. (2008) have even speculated that the BAS, rather than the BIS, may govern executive control processes related to the controlled inhibition of a response. Indeed, individuals motivated by approach-related affect experience a narrowing of attention (Gable & Harmon-Jones, 2008, 2010), which presumably facilitates completion of the goal that triggered approach motivation (Shah, Friedman, & Kruglanski, 2002). Thus, studies demonstrating that high-power individuals outperform low-power individuals at controlled inhibition tasks, such as suppressing goal-defeating behavioral responses (Smith et al., 2008) and avoiding distracting information (Guinote, 2007), are entirely consistent with the approach–inhibition theory.

In their review of the literature on the BIS and BAS, Keltner et al. (2003) described a connection between these systems and the experience of emotion based entirely on the valence of emotions. In their description, the BIS is associated with negative emotion and the BAS with positive emotion. This interpretation was consistent with the evidence at that time, but a series of studies have found that not all approach-oriented emotions (those connected to the BAS) are positive. Anger and guilt, for example, have appetitive properties, suggesting that they are governed by the BAS (Amodio, Devine, & Harmon-Jones, 2007; Carver & Harmon-Jones, 2009). In light of this evidence, the valence of an emotion should be considered orthogonal to whether it is approach or inhibition oriented (Gable & Harmon-Jones, 2010). Accordingly, the propositions regarding emotion in approach–inhibition theory need to be revised along the following lines: High power is associated with approach-oriented emotions, and low power is associated with inhibition-oriented emotions.

General Model of Disinhibition

Hirsh et al. (2011) extended the theorizing of Keltner et al. (2003) and presented a general model of disinhibition. They noted that power, alcohol, and anonymity all led to both prosocial and antisocial effects, and they described how all of these contradictory effects can emerge from a single underlying mechanism—the decreased salience of competing response options prevents activation of the BIS. They reviewed three distinct routes through which power can reduce the salience of competing response options—namely, through BAS activation, cognitive depletion, and reduced social desirability

concerns. Keltner et al. (2003) argued that the first of these routes, activation of the BAS, is triggered by having power. Because of increased responsibility, power often carries attentional constraints that can lead to cognitive depletion (Fiske, 1993). Also, powerful individuals have fewer social desirability concerns because they are less dependent on others (Emerson, 1964). Hirsh et al. proposed that BIS activity is the proximal mechanism underlying the effects of power.

The Hirsh et al. (2011) model of disinhibition is consistent with the wide range of research suggesting that powerful individuals are more goal focused (Galinsky et al., 2003; Guinote, 2007; Whitson et al., 2013): Powerful individuals experience less response conflict because of heightened BAS-related activity or greater cognitive load, which narrows goal-focused attention. Through this process of disinhibition, powerful individuals act on their most salient goal regardless of whether it is prosocial or antisocial. Thus, powerful individuals can act more selfishly by cheating (Lammers et al., 2010) and also more generously by helping others (Chen et al., 2001). This model can also explain how power both reveals the person, leading to greater correspondence between underlying dispositions and behavior, and shapes the person by leading individuals to behave more consistently with strong situational cues. Regardless of whether the dominant response emerges from a person's disposition or the situation, power is disinhibiting, producing both prosocial and antisocial behavior by reducing the salience of competing response options.

Agentic–Communal Model of Power

Rucker et al. (2012) recently put forth a new model of power that emphasizes the effects of power through the lens of the self versus others. Specifically, they suggested that states of high power produce an agentic orientation that focuses people on self-expression, self-expansion, and self-protection. In contrast, states of low power produce a communal orientation that focuses people on bonding with others and taking others into consideration in decision making.

Supporting this perspective, past research has shown that high, relative to low, power is associated with agentic behavior such as increased reliance on one's own thoughts (Briñol et al., 2007), increased expression of one's own opinion in a group (Anderson & Berdahl, 2002), and acting as though one is more important (Zimbardo et al., 1974). In contrast, low power, relative to high power, is associated with communal behavior such as greater perspective taking (Galinsky et al., 2006), an enhanced experience of empathy for others (van Kleef et al., 2008), and a desire to work on behalf of others (Dubois, Rucker, & Galinsky, 2014b). In addition, high-power conditions have been shown to increase one's self-importance relative to low-power and baseline conditions, whereas low-power conditions have been shown to increase one's dependence on others relative to high-power and baseline conditions (Rucker et al., 2011).

More important, unlike some theories that use the terms *agentic* and *communal* to reflect only whether the self or another benefits from a behavior (e.g., Abele, 2003), Rucker et al. (2012) used the terms to simply emphasize whether one is focused on the self or others. For example, they suggested that, in some cases, agency can lead to behavior that benefits others, such as when one's natural goal is to help others (Chen et al., 2001). They suggested that a first-order effect of power is to affect one's self–other orientation and that although power may often be associated with differential benefits to the self or others (see previous discussion of Rucker et al., 2011), power need not inevitably do so. As evidence of this, Dubois, Rucker, and Galinsky (2014a) found that states of both power and powerlessness can lead to giving more or less to a charity depending on whether the charity is designed to appeal to people's agentic or communal orientation. Specifically, Dubois et al. found that when charity appeals emphasize competency, which can be linked to agency, high-power individuals donate more than low-power individuals. In contrast, when charity appeals are designed to emphasize warmth, which can be linked to a communal orientation, low-power individuals donate more than high-power individuals.

Two aspects of the agentic–communal model bear additional emphasis. First, power is emphasized to shift the relative degree of agentic versus

communal focus in individuals. However, agency and communality are orthogonal constructs that allow for the possibility that power might enhance agency without a cost to communality and that a loss of power might enhance communality without a loss of agency. Consistent with such an idea, Chen et al. (2001) found that increasing power, which is associated with agency, had different effects on the basis of whether individuals were naturally more independent or interdependent. Individuals who were naturally independent became greedier when primed with power, but individuals who were naturally interdependent became more giving. In both cases, this can be understood through the lens of power increasing agency, but it can be critically moderated by whether people have goals related to the self versus others. Second, Rucker et al. (2012) described the agentic–communal shift as one aspect of what power does and recognize that this propensity can interact with other factors such as the power holder's goals and needs. For example, although low power tends to shift people toward being more communal, this tendency might be overridden when being selfish would allow them to escape their low-power state (see Rucker et al., 2012).

Social Distance Theory

Magee and Smith (2013) introduced the social distance theory of power, using Thibaut and Kelley's (1959) theory of interdependence in arguing that whereas mutual dependence tends to make people in a relationship feel closer (Kelley et al., 1983), a lack of dependence makes high-power individuals feel distant from their counterparts. Lammers et al. (2012) found evidence supporting this principle. In their studies, high-power individuals preferred solitary activities over collaborative or joint activities relative to low-power individuals, and their preference for social distance was explained by their perceived lack of dependence on their partners. The experience of social distance among power holders could explain some of the more social and relational phenomena associated with power, such as power holders' resistance to social influence (Anderson & Berdahl, 2002; Berdahl & Martorana, 2006; Galinsky et al., 2008), disinterest in others' mental states (Galinsky et al., 2006; Woltin, Corneille, Yzerbyt, & Förster, 2011), and empathic inaccuracy (Galinsky et al., 2006; Shirako, Blader, & Chen, 2013). After all, these outcomes are more likely in relationships between individuals who feel distant from each other rather than close to one another.

Social distance is also believed to increase construal level (Trope & Liberman, 2010), which, according to Magee and Smith (2013), could explain many cognitive effects of power beyond the association between power and abstract thinking (Magee et al., 2010; Smith & Trope, 2006). They proposed that high-level construal among power holders could explain their skill at rapidly selecting goals appropriate for the situation (Guinote, 2007, 2008), effective pursuit of goals (Galinsky et al., 2008; Gruenfeld et al., 2008; Guinote, 2007; Smith et al., 2008), and subjective certainty (Briñol et al., 2007; Eaton et al., 2009; Fast, Sivanathan, et al., 2012; Magee et al., 2010). Magee and Smith also argued that power holders' high-level construal could lead to more stereotyping in situations in which a stereotype is applicable (Chen, Ybarra, & Kiefer, 2004; Goodwin et al., 2000), superior individuation in situations in which no stereotype is available (Gruenfeld et al., 2008, Experiment 2; Overbeck & Park, 2001), and more instrumental person perception when a target can be used for a salient goal (Copeland, 1994; Gruenfeld et al., 2008; Kunstman & Maner, 2011; Overbeck & Park, 2001, 2006). Social distance theory provides a unifying account for these diverse, and in some cases apparently contradictory, phenomena linked to power.

Relation Among Various Perspectives on Power

Although the approach–inhibition theory has dominated the field of late, some evidence has supported each one of the theories we have reviewed. These theories are not necessarily in competition with one another. That is, given the breadth of the power construct, we believe it is likely that power often guides and shapes behavior through multiple independent processes. As research in the domain of power intensifies, rather than understand a single process by which power affects behavior, we believe the more relevant endeavor is to understand when the different psychological processes affected by

power operate to affect subsequent behavior (see also Magee & Smith, 2013). We discuss this point more thoroughly in our section on setting an agenda for the next wave of power research.

MOVING THE RESEARCH AGENDA FORWARD

In the introduction to this chapter, we recognized several waves of power research have occurred. In this section, we turn to the future and consider the next wave of research and raise a number of ideas that have begun to swell as power-related research has grown. The next wave of research will surely produce more complete models of power. To make the models more comprehensive, the moderators of power's effects will need to be integrated into the theories of power. For example, Magee and Smith (2013) included goals as an important moderator in the social distance theory of power. In many ways, the halcyon days of simply looking at the main effects of power are surely ending. As shown in Figure 16.2, a panoply of direct effects of power have already been discovered. As we embark on the next wave of power research, a deeper exploration into moderators and mechanisms becomes essential.

Integrating and Testing Different Theories of Power

Perhaps one of the most important steps for power research to take with regard to theory development is to make a deeper commitment to understanding and empirically testing when different theories operate. In recent work, Magee and Smith (2013) noted that in some cases the same observed effect of power on an outcome variable can be interpreted through two different theoretical lenses. They noted that a number of effects are compatible both with power operating through approach–inhibition systems (Hirsh et al., 2011; Keltner et al., 2003) and with power operating through social distance (Magee & Smith, 2013). In such cases, researchers might invoke either theory to explain their results. This can lead to the production of an article with a reasonable theoretical process, but one that may fail to consider whether the effects are more strongly linked to an alternative theory.

In the next wave of research, we would encourage researchers both to explicitly tease apart different processes experimentally and to articulate when different processes operate. By paying closer attention to the different models of power, the next wave of research can establish more clearly which model more effectively and more parsimoniously explains the full range of behavior and when it does so.

Meanings Attached to Power

Earlier we mentioned that a sense of power is the key proximate variable that predicts behavior. That is, a manipulation of power has its effects because it makes people feel more powerful. Building on this theme, we propose that the effects of power depend on how it is conceived, acquired, and exercised (Lammers & Galinsky, 2009). Indeed, the Manipulating the Moderators of Power section of this chapter clarified that the effects of power are not invariant but context dependent, determined by personality, culture, legitimacy, and stability. The meaning of power also relates to power motivation and the distinction between whether people want power for personal gain or out of concern for improving the lot of others (Magee & Langner, 2008).

Ultimately, the effects of power are not just about the amount of resources possessed. Rather, the psychological consequences of power depend on its meaning, on how power is conceived and conceptualized by the particular individual under its sway. The effects of power cannot be reduced to quantitative calculations of relative resources but require a qualitative appreciation of how power was acquired, for what purpose, and to what end.

By understanding how an individual conceptualizes power, we can capture not only when power has its effects but also why power has the effects it does. In their approach–inhibition theory of power, Keltner et al. (2003) argued that power produces its effects because powerful individuals have unfettered access to rewards, whereas powerless individuals lack resources and are more subject to social threats. However, our discussion of moderators puts a number of boundaries around their reasoning. It is not just an abstract sense of power that is the proximate cause of behavior but rather the meaning attached to that sense of power. For example,

when power is embedded in an interdependent self-construal, powerful individuals lean toward responsibility and cooperation compared with when power is entrenched in an independent self-construal (Torelli & Shavitt, 2010; Zhong et al., 2006). In this case, the sense of power is associated with different meanings, depending on the power holder's culture.

Even expansive postures depend on their symbolic meaning. Park, Streamer, Huang, and Galinsky (2013) found that the seemingly fundamental link between expansive body postures and feelings of power is not universal but depends on people's cultural background. They found that the expansive-feet-on-desk pose (Carney et al., 2010) violated East Asian cultural norms and as a result did not lead to feelings of power or action among East Asians. Because the meaning of different postures varies across cultures, posture does not have a direct effect on power-related behavior and cognition. Instead, posture carries its influence through its culture-specific symbolic meaning.

Future research needs to build models and theories that take into account the meanings attached to power. To predict how power will affect someone, it will be necessary to know how that person conceptualizes and thinks about power.

Fit and Mismatch Effects: Who Benefits From Having Power

In this chapter, we have highlighted the benefits of having, and the costs of lacking, power. However, several lines of research have suggested that the fit between the role and the person determines the extent to which having power is positive. In some situations and for some people, lacking power is preferred to having power.

Josephs, Sellers, Newman, and Mehta (2006) proposed the mismatch effect to describe a situation in which an individual difference makes one uncomfortable in a position of power. They placed high- and low-testosterone individuals into high- or low-ranked positions and found that low-testosterone individuals had a negative physiological reaction to being in the dominant position: They reported greater emotional arousal and showed worse cognitive functioning in a dominant position. In contrast, high-testosterone individuals showed physiological distress and cognitive deficits when in the subordinate position.

Chen et al. (2009) also found that the degree of fit between an individual's sense of power and hierarchical role influenced authentic self-expression. Earlier, we mentioned that power makes people feel more authentic (Kraus, Piff, & Keltner, 2011) and increases SWB (Kifer et al., 2013). However, Chen et al. found that these effects occurred only when people had a chronically high sense of power. They placed people who had scored high or low on the Sense of Power scale (Anderson, John, & Keltner, 2011) into a high- or low-power role in an interaction with a confederate. When there was a fit between person and role ratings, people's expressions were more congruent with their self-reported emotions and traits. These results bear some resemblance to the finding by Fast and Chen (2009) that when powerful individuals feel incompetent in their role, the psychological benefits of power do not accrue.

The next wave of research will need to capture more precisely who benefits from having power and under what conditions they benefit from it. One potentially promising avenue is for researchers to connect the research on the subjective meaning of power to the research on person–role fit. How people conceptualize power may have critical implications for the degree to which they experience fit in their powerful or powerless role.

Putting Power Back Into a Social Context: Knowing One's Place and Intergroup Competition

In this chapter, we have focused on the psychological experience of power and its many effects. Earlier, we mentioned various manipulations that can make people feel powerful. People can think about a past experience with power or imagine being in a high-power position. They can take on an expansive posture or make a fist. This implies that once people have thought about power or changed their posture, they are now powerful.

However, power is not just an individual property. Power is contextualized in interpersonal

relationships, and in most relationships, people are aware of their power vis-à-vis another person. Indeed, Anderson, Srivastava, Beer, Spataro, and Chatman (2006) have shown that people self-enhance in many domains but tend to be accurate in reporting their level of status. This accuracy stems from the fact that people are severely punished if they do not know their place and act with greater authority than they truly have.

Placing the psychological experience of power into the social context raises the question of whether there are interpersonal costs of being primed with power. Will some people accrue more interpersonal benefits from thinking about power or getting into an expansive posture? If a low-power person is primed with power, will he or she rise in the hierarchy or be struck down for acting too powerful? Some initial evidence has come from work on emotional expressions in economic transactions. Lelieveld, Van Dijk, Van Beest, and Van Kleef (2012) found that low-power bargainers were punished for expressing the emotion of anger, a response typically associated with high power.

Expanding the social contexts also brings intergroup considerations into focus. Howard, Gardner, and Thompson (2007) found that powerful individuals primed with interdependence became more generous when resolving a dispute with a low-power opponent. However, in intergroup disputes, powerful teams became less generous when they were primed with interdependence. These results suggest that the construct of interdependence took on a different meaning in the intergroup context. Similarly, Maner and Mead (2010) found that insecure, unstable power led powerful people to withhold valuable information from the group and prevented other skilled group members from having any influence. However, these self-interested actions disappeared when the group was competing against an out-group. In both of these articles, competition that made group goals salient led to different effects when power was experienced individually and within a group. Future research should continue to explore how the intergroup context changes the psychological experience and effects of power as well as its many moderators.

Needs Versus Propensities

The majority of work on the consequences of power has focused on how having versus lacking power alters cognitive and behavioral tendencies. Power leads people to become abstract thinkers, action takers, self-aggrandizers, and so forth. However, states of high and low power can also activate various needs that motivate fulfillment of those needs.

Rucker et al. (2012) proposed that the influence of power on thought and behavior can be governed both by psychological propensities and by needs. They defined psychological propensities as natural inclinations or tendencies. As one example, having power increases the value individuals place on the self, whereas lacking power increases the value people place on others (i.e., the agentic–communal orientation; Rucker et al., 2011). In contrast, psychological needs refer to specific motivations or desires evoked by the state. For instance, lacking power is typically associated with a need to restore one's power, which contributes to a desire for objects related to status (Rucker & Galinsky, 2008, 2009).

Inesi and colleagues have explored how both high and low power can create needs and concerns. Low power is characterized by a dependency on others and diminished influence over one's world. As a result, the need for personal control is threatened by lacking power. Inesi, Botti, Dubois, Rucker, and Galinsky (2011) proposed that when people are in a low-power position, they will seek out ways to regain a sense of control. Because having choice satisfies the need for control, they hypothesized that low-power individuals would want more choice. In their studies, powerless individuals preferred a larger choice set and demonstrated a greater motivation to access a larger choice set.

Inesi, Gruenfeld, and Galinsky (2012) explored the idea that powerful individuals have a fear that others are nice to them only because of their power. They called this the "celebrity's dilemma" in recognition of the concern that celebrities often voice about finding true relatedness: They are haunted by the possibility that someone loves not them but only their celebrity. In their studies, Inesi et al. found that power undermined the quality of relationships by creating instrumental attributions for generous acts. Powerful individuals were more likely to believe

that favors they received from low-power individuals were offered for instrumental purposes, and this belief reduced their thankfulness and desire to reciprocate and trust the low-power person. Inesi et al. suggested that power does create a need, a need for true relatedness.

In understanding the relationship between needs and propensities, Rucker et al. (2012) suggested that, given that the propensities of power require little cognitive thought or involvement, propensities should be relatively consistent across contexts. For example, power fosters a propensity to increase action (Galinsky et al., 2003). In contrast, psychological needs are proposed to be more responsive to the context and to guide behavior in a manner consistent with the need. People should be more likely to engage in behavior when that behavior addresses their psychological needs. Thus, lacking power does not lead people to evaluate all objects more favorably; rather, lacking power leads people to evaluate objects associated with status more favorably (Rucker & Galinsky, 2008, 2009). Furthermore, Rucker and Galinsky (2008, 2009) proposed that propensities of power can be overridden by the needs produced by a state of power.

In initial support of the idea that needs can overwhelm propensities, Rucker et al. (2012) reported an experiment in which participants were asked how much they were willing to spend on an object either for themselves or for another person. An important note is that the object was either unrelated to status or related to status. Rucker et al. hypothesized that high power would foster high spending on the self and low power would foster spending on others. They suggested this was consistent with the general notion that a propensity of having power is to increase the value of the self, whereas a propensity of lacking power is to increase the value of others (Rucker et al., 2011). However, they proposed that low-power individuals would spend more on the self: when the object of consumption was related to status and thus fit the psychological need of people lacking power. In other words, they hypothesized that a low-power need could dominate a high-power propensity, leading those lacking power to spend more on a status object for the self than for others. The results of several experiments confirmed their hypothesis.

This recent work provides one example of how different processes associated with power, in this case propensities and needs, can operate in different circumstances and produce different effects. The next wave of power research should seek to further enlighten our understanding of how and when the propensities versus the needs associated with conditions of high and low power drive behavior.

Experiences of Versus Expectations for Power

Recent work has distinguished between the intrapersonal experience of power—the psychological and physiological tendencies that get activated when one has or lacks power—and the interpersonal expectations for power—anticipated or expected behaviors tied to a position of low or high power (Rucker, Hu, & Galinsky, 2014).

Although a large body of research has focused on how the experience of power affects behavior, power is also accompanied by expectations for behavior. Rucker et al. (2014) defined the expectations for power as the cognitive associations people have regarding the anticipated behaviors of people in a position of high versus low power. Rucker et al. demonstrated that a critical determinant of how powerful people will behave depends on whether a person's focus is on the experience of power versus the expectations for power. When focused on the experience of power, those who were powerless engaged in greater information processing and a greater desire for status objects, replicating past findings. However, when focused on the expectations for power, these findings reversed: Those who were powerful exhibited greater information processing and desire for status objects, consistent with the expectations people had for those in positions of power. When the experience of and the expectations for power were consistent with each other, both experience and expectations had the same effect: Power increased action regardless of whether an individual was focused on the experience of power or the expectations for power.

Rucker et al. (2014) also divided expectations into two types—prescriptive and descriptive. They found that in the domain of unethical behavior, people expected that powerful individuals would act

more dishonestly than powerless individuals but they thought the former should act more honestly than latter. When they focused participants on the prescriptive expectations for power, the powerful participants cheated less. However, when they focused participants' attention on the descriptive expectations, the powerful participants cheated more.

By distinguishing between the experience of and expectations for power, Rucker et al. (2014) offered a model that can more precisely predict the behavior of powerful and powerless individuals. The goal of this research and the previously discussed work on needs versus propensities is to provide a more comprehensive understanding of when and how power affects behavior and to provide better predictive models. Future research should also establish the conditions, contexts, and situations that alter whether people are focused on the experience of power or expectations for power.

Harnessing the Good and Neutralizing the Bad in Power

We noted that the first wave of power research in social psychology focused on the negative consequences of having power (Milgram, 1963; Zimbardo, 1973; Zimbardo et al., 1974). Since those times, research has begun to recognize that the possession of power can have both desirable and undesirable consequences for people under the direction of power holders and society more generally. Rather than power innately being negative, power affects psychological processes that can have prosocial or antisocial consequences depending on an individual's goals and the situation (see Hirsh et al., 2011; Rucker et al., 2012).

We believe that future research needs to focus on moderating variables that determine (a) when power produces prosocial versus antisocial consequences and (b) when power has distinct effects on the same dependent measure (e.g., generosity). Such efforts will not only paint a more accurate picture of the transformative effects of power but may hold serious policy implications for how society can encourage the use of power for good and deter the use of power for bad.

As we noted, power activates a number of positive psychological processes: It increases action, agency, optimism, and confidence. These processes can make the impossible possible. However, they can also lead people down dead-end alleys. Power also produces a number of effects on social perception, such as diminished perspective taking, that can be more destructive than constructive.

How can the good in power be harnessed without all its potentially deleterious effects? The first obvious idea is to select better people into powerful roles. The numerous findings that power reveals the person, making individual differences better predictors of behavior, clearly suggest that one method to get the good in power is to select the right individual differences for a powerful post. Harnessing the best parts of power will require effective leadership selection. Future research should explore better ways to identify the right people to select for power.

The second method for harnessing power, and one for which we are more hopeful, is creating structural solutions. One potential solution is to make those who are powerful accountable (Tetlock, Skitka, & Boettger, 1989). Some evidence to support the idea that the interaction between power and accountability can produce the most prosocial outcomes comes from a study by Winter and Barenbaum (1985). They found that those with a high need for power—characterized by a desire to have influence and to maintain prestige—generally engaged in self-serving and self-satisfying profligate behaviors, including gambling and sexual promiscuity. However, high need for power was transformed into responsible and socially supportive actions when those individuals faced life events—becoming a parent or having younger siblings—that increased their sense of responsibility. High need for power combined with feelings of responsibility led individuals to both rein in their selfish desires and display community-minded behaviors such as volunteering. To the extent that accountability pressures heighten a sense of responsibility in power holders, they may serve to harness the good in power while neutralizing the bad.

We end this section with a metaphor—driving a car—to understand how the good in power may be harnessed. The agency of power is akin to pressing the gas pedal. Without acceleration, one is left standing still, unable to move forward. But one also needs a steering wheel to avoid crashing into

obstacles along the way. Being effective requires acceleration and prudent steering, power with accountability.

CONCLUSION

We wrote this chapter to serve as a guide to the past and present waves of research on power and to chart new waters for the next course of power research. We articulated a precise definition of power, one that can be applied to many different relationships and settings. We catalogued the distinct manipulations and measures that have been used in research on power. Building on the many methods used to study power, we identified and categorized a range of important consequences produced by power. Recognizing that the main effects of power are individually and contextually bound, we also discussed moderators, those variables that alter when people feel powerful and how they act with power. Building off the consequences of power, we also discussed a variety of theories that have been used to explain power's myriad effects. We ended the chapter by offering a few of the many future directions that power research could take over the next few years.

Power has gone through several important and interesting waves of research. We are excited by the fact that the surge in publications on the topic of power suggests that the latest wave of power research has begun to swell. We hope to see many more theoretical and empirical projects in the next wave of power. Ultimately, the rise of research on power, current and future, will help provide an enriched understanding of power and produce a more comprehensive and integrative model for its effects.

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