

UC San Diego

UC San Diego Previously Published Works

Title

Moving closer to reach the top: Approach behavior increases one's sense of power

Permalink

<https://escholarship.org/uc/item/5kr4s0rq>

Journal

Social Cognition, 31(4)

ISSN

0278-016X

Authors

Smith, PK
McCulloch, KC
Schouwstra, A

Publication Date

2013

DOI

10.1521/soco_2012_1007

Peer reviewed

Running head: APPROACH BEHAVIOR AND POWER

Moving Closer to Reach the Top: Approach Behavior Increases One's Sense of Power

Pamela K. Smith

University of California, San Diego

Kathleen C. McCulloch

Lancaster University

Anja Schouwstra

Leiden University

in press, *Social Cognition*

Address for correspondence: Pamela K. Smith, University of California, San Diego, Rady School of Management, 9500 Gilman Dr. #0553, La Jolla, CA 92093-0553. Phone: +1 858-822-7472. Fax: +1 858-534-0745. E-mail: psmith@rady.ucsd.edu.

Abstract

Power holders exhibit more approach behavior than those without power and are even expected by others to do so. We proposed that this strong association between power and approach should make approach behavior a useful cue for perceiving one's level of power: If I am approaching things, I must be powerful. Across three experiments, engaging in approach behavior led individuals to feel explicitly (Exp. 1) and implicitly (Exp. 2) more powerful and to feel better suited for high-power jobs (Exp. 3), without affecting conscious affective experiences. Furthermore, the effect was not dependent on specific physical movements; the same movement was psychologically framed as either approach or avoidance and affected participants' sense of power accordingly (Exp. 1 & 3). Since power itself leads to approach behavior, these results suggest a way power hierarchies may be unintentionally perpetuated or strengthened.

Keywords: sense of power; approach and avoidance behavior; distance; unintentional maintenance of hierarchies

Moving Closer to Reach the Top: Approach Behavior Increases One's Sense of Power

People's level of power fundamentally affects the way they regulate distance. High-power individuals maintain less interpersonal distance from others and are faster to approach objects than low-power individuals (Hall, Coats, & Smith LeBeau, 2005; Smith & Bargh, 2008). The powerful are also expected to approach more: to stand or sit closer to others, to initiate touch more often, and generally to be more invasive of other's space (Carney, Hall, & Smith LeBeau, 2005; Hall et al., 2005). Since high-power individuals have the basic tendency to engage in behaviors that bring objects in the environment closer, the perception of power may be enhanced by performing those same behaviors.

In other words, approach behavior is clearly part of the mental representation of power. Previous research convincingly demonstrates that activating the concept of power activates approach behavior. Therefore, our main question is whether activating approach behavior also activates the concept of power. This advances the study of power because as with any mental representation, investigating bidirectionality is a basic way to study process. For example, in the goal literature, goals are mentally represented as a hierarchical structure containing motives, goals, plans, means, and behaviors. Not only do means prime goals, but goals also prime means (Shah & Kruglanski, 2003). Such a bidirectional relationship is functional. For instance, if you forget a particular means to a goal, highlighting that goal helps you remember other associated means (McCulloch, Aarts, Fujita, & Bargh, 2008). More relevant to the present research, Smith, Wigboldus, and Dijksterhuis (2008) found that the relationship between power and abstract thought is bidirectional: having power leads to more abstract thought (Smith & Trope, 2006), and inducing people to think abstractly makes them feel more powerful.

One cannot assume bidirectionality of relationships. For example, according to a metaphor-enriched perspective on cognition (Landau, Meier, & Keefer, 2010), people use knowledge about concrete attributes of objects and relations to interpret and evaluate more abstract concepts, but the reverse does not occur. Thus, information about spatial relations influences how people construe temporal relations, but activating information about temporal relationships does not influence how people construe spatial relations (Casasanto & Boroditsky, 2008).

We hypothesize that the relationship between power and approach behavior is bidirectional: Enacting approach behavior should lead individuals to feel more powerful. This may occur because it maintains or propagates the cycle of power. Power is often initially acquired via approach-type behavior, such as by actively engaging with other people (Keltner, Van Kleef, Chen, & Kraus, 2008). Once power is acquired, this sense of power reinforces this approach behavior, and we propose that this approach behavior should also reinforce the sense of power. Thus, studying bidirectionality helps us understand how power is acquired and perpetuated.

Approach behavior should also perpetuate power because it is associated with powerful characteristics. Such behavior reflects an underlying assumption that the object being approached is not a threat, and may even be a reward. Such a lack of concern about threats and expectation of reward is a major characteristic of power (Keltner, Gruenfeld, & Anderson, 2003). Furthermore, in previous research, the priming of approach behavior has led to cognitive effects such as more abstract and creative thought (e.g., Friedman & Förster, 2000, 2001, 2002, 2005) which are also characteristics of having power.

Until now we have focused on approach behavior, but behavior is generally reduced to two fundamental action tendencies: approach and avoidance (e.g., Carver, 2001). While approach behavior immediately reduces distance from an object, avoidance behavior increases that distance. Thus, a corollary to the question of the role of approach in power, is the role of avoidance. Avoidance may be viewed as the opposite of approach, yet it is not consistently activated by a lack of power. Low power is more consistently associated with inhibited behavior than with actively avoidant behavior (Anderson & Berdahl, 2002; Smith & Bargh, 2008). Thus, we propose that enacting approach behavior should lead individuals to feel more powerful, but enacting avoidance behavior should not affect their sense of power. By focusing on different types of action, our work is distinct from theories of power that focus on action versus a lack of action (e.g., inhibition), such as the Approach/Inhibition Theory of Power (Keltner et al., 2003).¹

Another critical question is whether the effect of approach on power involves direct bodily feedback. That is, must individuals literally increase or decrease actual physical distance to affect their sense of power? In contrast to other perspectives on power (e.g., Carney, Cuddy, & Yap, 2010), we propose it is the construal of a movement, not the specific physical mechanics, that determines whether it is experienced as approach or avoidance (Krieglmeyer, De Houwer, & Deutsch, 2011) and thus how it affects an individual's sense of power. Indeed, research on approach and avoidance behaviors shows that these behaviors have to do more with the construal of the movement and its context, rather than the actual movements themselves (Markman & Brendl, 2005; Seibt, Neumann, Nussinson, & Strack, 2008).

Across three experiments, we used two different manipulations of approach/avoidance behavior. The essence of approach and avoidance behavior is physical distance: Approach behavior decreases the distance between two objects, whereas avoidance behavior increases this

distance. Our manipulations involved enacting behavior that either literally changed the distance between two objects (Exp. 1 and 3), or is normally associated with changes in distance (Exp. 2). To test whether our effects were reliant on direct bodily feedback, in Experiments 1 and 3 approach and avoidance participants performed the same physical movements, but the context served to frame that movement as either approach or avoidance. If the relation between approach and power depends solely on bodily feedback, such a manipulation should not affect participants' sense of power.

In the first two experiments, we explored how such behavior affected participants' explicit (Exp. 1) and implicit (Exp. 2) sense of power. Finally, Experiment 3 examined a downstream consequence of this sense of power: participants' comfort with assuming low- versus high-power roles. Additionally, to determine whether our effects were driven solely by approach/avoidance behaviors, we measured mood in all experiments. The approach and avoidance systems have been theoretically linked to particular types of affect (e.g., Carver, 2001; Harmon-Jones, 2003), but as Friedman and Förster, among others, have repeatedly shown (e.g., 2000, 2001, 2002), conscious affective experiences are not necessary for activated approach/avoidance states to affect cognition or behavior. We predicted that the basic behaviors we use will directly change participants' sense of power, without involving affect.

Experiment 1

The first experiment explored whether enacting approach versus avoidance behavior alters one's explicit sense of power. Participants moved a figure toward or away from a series of neutral objects. Since the presence of rewards versus punishments is itself a sign of power (Keltner et al., 2003), using valenced objects would have left it unclear whether it was approach/avoidance behavior or the rewarding/punishing nature of the environment itself driving

our effects. To test whether our manipulation only affected participants' sense of power, or if it affected participants' self-concepts more generally (e.g., gave them a generally more positive view of themselves), we included measures of both power and warmth.

Method

Participants. Ninety-six undergraduate students (52 males, 44 females) from a U.S. university took part in the experiment for course credit. Two participants were dropped from analyses for making excessive errors on the priming task (responding incorrectly on over 50% of trials). Thus, 94 participants (51 male, 43 female)² were included in the final analyses. Average age was 21.76 years ($SD = 1.62$).

Procedure and materials. The approach/avoidance manipulation was adapted from Smith and Bargh (2008). Participants were told this task measured response speed. Each trial began with a stick figure appearing centered either in the top or bottom half of the computer screen (determined randomly on each trial). A letter string appeared in the center of the screen 750 ms later. Approach participants were told that as soon as the string appeared, they should press the appropriate arrow key (up or down) to move the figure *toward* the string. Avoidance participants were told to press the appropriate arrow key to move the figure *away from* the string. With this key press, the figure moved in the indicated direction until it reached either the center or the edge of the screen. Then the word and figure disappeared, and the next trial began 2000 ms later. Participants were told to keep their index fingers on the up and down arrow keys and to respond as quickly and accurately as possible. They completed 10 practice trials with feedback, then 96 critical trials. Half of the strings were nonwords, and half were neutral words (e.g., chair). Control participants skipped this task.

Immediately afterwards, all participants answered 12 mood questions in random order. On 9-point scales (0 = *not at all*, 8 = *very much*) they indicated how happy, content, joyful, sad, disappointed, depressed, calm, relieved, relaxed, nervous, worried, and tense they felt.

Participants next rated themselves on 23 items presented in random order. Each item consisted of a 9-point scale, anchored on each end by a trait. Seven trait pairs were related to power: submissive-dominant, passive-active, unassertive-assertive, timid-firm, uncertain-certain, insecure-confident, and dependent-independent. Smith, Wigboldus, et al. (2008) previously used these traits to measure individuals' sense of power. To determine whether our effects were specific to power or reflected a generally more positive self view, we included five trait pairs related to warmth: unpleasant-pleasant, unlikeable-likeable, unfriendly-friendly, cold-warm, and nice-mean (reverse-coded).³ Finally, participants were probed for suspicion and debriefed. No participants indicated suspicion of a connection between the approach/avoidance and self-rating tasks.

Results and Discussion

Self ratings on power-relevant traits. Responses to the 7 power-relevant trait pairs were averaged together ($\alpha = .84$). As predicted, behavior condition significantly affected explicit sense of power, $F(2, 91) = 3.45, p = .04, \eta_p^2 = .07$. Approach participants ($M = 6.74, SD = 1.03$) rated themselves higher on power-relevant traits than both control ($M = 6.17, SD = 1.30$) and avoidance participants ($M = 6.03, SD = 1.07$), $ps \leq .05$, with the latter two groups not differing, $p = .63$.

Self ratings on warmth-related traits. Responses to the 5 trait pairs related to warmth were averaged together ($\alpha = .74$). Behavior condition was unrelated to this measure, $F < 1$.

Additional measures. We aggregated the affect items to distinguish between the valence and motivational orientation associated with different emotions (e.g., Higgins, Shah, & Friedman, 1997). In line with others who have used the same affective measure (e.g., Friedman & Förster, 2005; Smith & Trope, 2006), four composite indices of affect were calculated, to differentiate between positive (*happy, content, joyful, calm, relieved, relaxed*) vs. negative (*sad, disappointed, depressed, nervous, worried, tense*) affect, and approach-related (*happy, content, joyful* with (reverse-scored) *sad, disappointed, depressed*) vs. avoidance-related (*calm, relieved, relaxed* with (reverse-scored) *nervous, worried, tense*) affect. Behavior condition did not affect the latter three indices, $ps > .10$, but it did affect positive affect, $F(2, 91) = 3.56, p = .03, \eta_p^2 = .07$. However, contrary to what would be expected if positive affect mediated our effects, control participants expressed the most positive affect ($M = 4.18, SD = 1.45$), followed by approach participants ($M = 3.84, SD = 1.52$), then avoidance participants ($M = 3.27, SD = 1.20$), though only control and avoidance participants differed significantly, $p = .01$, all other $ps > .09$. When positive affect was included as a covariate, the effect of behavior condition on power ratings remained significant, $F(2, 90) = 3.23, p = .04, \eta_p^2 = .07$.

Experiment 2

Experiment 2 extended the previous results by involving a different manipulation of approach/avoidance behavior and a different measure of participants' sense of power. To manipulate approach versus avoidance, participants pressed either up or down against a desk (Cacioppo, Priester, & Berntson, 1993). Pressing the palm up against the underside of a surface (arm flexion) produces bodily feedback associated with pulling something toward the self, or approach. Pressing the palm down against a surface (arm extension) produces bodily feedback associated with pushing something away from the self, or avoidance. Thus, flexion can be

conceptualized as approach, and extension as avoidance. Here participants performed an approach or avoidance movement without responding to any particular stimulus.

In Experiment 1, participants reported explicitly how powerful they felt. In Experiment 2, we measured their implicit sense of power. Implicit and explicit self-concepts do not always overlap (Greenwald & Farnham, 2000). Individuals' explicit sense of power may only be modestly correlated with their implicit sense of power, and experimental manipulations of power may differentially affect explicit and implicit self-concepts. For example, when female participants were placed in roles differing in perceived power, their implicit self-concept was affected, but not their explicit self-concept (Haines & Kray, 2005). Thus, it is important to determine if approach/avoidance behaviors also affect individuals' implicit sense of power. We used a self-power version (Haines & Kray, 2005) of the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) to assess how much participants associated the self with dominance versus submission. We predicted that approach behavior would increase participants' implicit sense of power, relative to avoidance behavior.

Method

Participants. Seventy-nine undergraduate students (24 males, 55 females) from a Dutch university who were native Dutch speakers took part in the experiment for course credit or €2. Two participants were dropped from analyses because more than 10% of their latencies were faster than 300 ms (Greenwald, Nosek, & Banaji, 2003). Thus, 77 participants (24 males, 53 females) were included in the final analyses. Average age was 21.52 years ($SD = 2.68$).

Procedure and materials. Participants were told the study involved the relationship between hemispheric brain activation and lexical task performance. They were randomly assigned to assume either the approach or the avoidance arm position with their nondominant

hand, purportedly to activate one brain hemisphere (Koch, Holland, Hengstler, & van Knippenberg, 2009). Approach participants pressed a foam ball up against the bottom of the table. Avoidance participants pressed the ball down against the top of the table. The ball was used to ensure participants maintained similar, constant pressure against the table. Participants maintained this position while completing all critical measures on computer.

Participants next completed a mood measure, the Positive Affect Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). The self-power IAT (Haines & Kray, 2005) followed. In each of five blocks, participants pressed the left- and right-arrow keys with the index and middle fingers of their dominant hand, respectively, to categorize words presented in the center of the screen. The four categories were *dominant* (dominant), *ondergeschikt* (subordinate), *zelf-gerelateerd* (self) and *niet zelf-gerelateerd* (nonself). The two latter categories were represented by 6 self-related and 6 other-related words. The *dominant* and *subordinate* categories were each represented by 6 Dutch words selected via pre-testing to differ in power but be moderate in valence. In the pretest, 24 participants rated the 6 *dominant* words as indicating significantly more power than the 6 *subordinate* words, $F(1, 23) = 187.51, p < .001$, but as not differing in valence, $F(1, 23) = 2.88, p = .10$.

The procedure was similar to that of other identity IATs (e.g., Greenwald & Farnham, 2000). The critical congruent and incongruent blocks each consisted of 72 trials (24 practice, 48 test). During the congruent block, participants were instructed to press the left-arrow key whenever a *self* or *dominant* word appeared, and the right-arrow key whenever a *nonself* or *subordinate* word appeared. During the incongruent block, participants were instructed to press the left-arrow key whenever a *nonself* or *dominant* word appeared, and the right-arrow key whenever a *self* or *subordinate* word appeared. Due to our limited participant pool, and our

interest in relative differences in IAT effects between conditions rather than absolute effects (Nosek, Greenwald, & Banaji, 2005), the order of blocks was held constant: the congruent block always preceded the incongruent block (see also Smith, Dijksterhuis, & Chaiken, 2008). The IAT effect here represents participants' relative ability to associate the self (versus others) with being dominant (versus subordinate). Higher scores thus represent a greater implicit sense of power.

After the IAT, participants indicated on a 9-point scale (0 = *not at all*, 8 = *very much*) how difficult it was for them to keep pressing the foam ball and how much effort they put into it. Finally, they were probed for suspicion and debriefed. No participants indicated suspicion of a connection between their hand position and the IAT.

Results and Discussion

Implicit sense of power (IAT). We used the *D4* scoring algorithm to analyze the IAT results (for specific details see Greenwald et al., 2003).⁴ Approach participants ($M = 0.39$, $SD = 0.38$) had a greater implicit sense of power than avoidance participants ($M = 0.21$, $SD = 0.37$), $F(1, 75) = 4.46$, $p = .04$, $\eta_p^2 = .06$.

Additional measures. Arm position did not affect positive or negative affect, or the difference between the two, $F_s < 1$. There were also no differences in how difficult it was to assume the arm position, nor the effort put into it, $F_s < 1.1$.

Experiment 3

So far we have demonstrated that individuals who enact approach behavior have an elevated sense of power, both explicitly and implicitly, than individuals who enact avoidance behavior. One downstream consequence of this elevated sense of power might be greater comfort with a high-power job (e.g., Smith, Wigboldus, et al., 2008). To test this idea, in Experiment 3 participants rated how good of a fit each of two low-power and two high-power jobs would be

for them. We predicted that performing approach behaviors would foster greater relative comfort with the high-power jobs, as compared to low-power jobs, than performing avoidance behaviors.

Method

Participants. Seventy-nine undergraduate students (11 males, 68 females) from a Dutch university took part in the experiment for course credit or €1. Average age was 20.41 years ($SD = 2.22$).

Procedure and materials. Approach versus avoidance behavior was manipulated, with mood measured immediately afterwards, using the same letter string task and 12 mood questions as in Experiment 1. Then participants read, in random order, a series of four job advertisements supposedly from a large advertising firm: two relatively low-power positions (ad designer, personnel administrator) and two relatively high-power positions (production manager, personnel director). All involved various job-specific tasks (e.g., the designer generated new ad ideas). However, both low-power positions involved having the person's work judged and approved by higher-level employees, and both high-power positions involved supervising and evaluating lower-level employees.⁵

After reading about a position, participants rated on 9-point scales (0 = *not at all*, 8 = *very much*) how qualified they would be for it, how appropriate it was for them, and how good they thought they would be at it. These three questions were meant to measure how good of a fit each position would be and formed a reliable scale for each position (α s from .74 to .93). Finally, participants were probed for suspicion and debriefed. No participants indicated suspicion of a connection between the two tasks.

Results and Discussion

Job fit. We first averaged across the responses to the three fit items for each position. Initial analyses indicated that behavior condition did not differentially influence responses to the two low-power or two high-power positions, $F_s < 1$. Thus, we averaged across the ad designer and personnel administrator to obtain one measure of fit for low-power positions, and across the production manager and personnel director to obtain one measure of fit for high-power positions. A 2 (Position: low-power vs. high-power) x 2 (Behavior: avoidance vs. approach) mixed-model ANOVA was run on these ratings, with the first factor within participants. Only the two-way interaction was significant, $F(1, 77) = 4.69, p = .03, \eta_p^2 = .06$ (see Figure 1). Approach participants ($M = 4.74, SD = 1.24$) tended to think the high-power job was a better fit for them than did avoidance participants ($M = 4.23, SD = 1.44$), $F(1, 77) = 2.80, p = .10$. Approach participants ($M = 4.55, SD = 1.24$) also thought the low-power job was a worst fit for them than the avoidance participants ($M_{low} = 4.70, SD = 0.98$), though this effect was nonsignificant, $F < 1$.

Additional measures. Four composite indices of affect were calculated as in Experiment 1. Behavior condition did not affect any of these, $ps > .25$.

General Discussion

The complexity of human behavior can be reduced, at its essence, to two types of movements: approach versus avoidance. High-power individuals do more (Galinsky, Gruenfeld, & Magee, 2003), but in particular they exhibit more approach-related behavior (Anderson & Berdahl, 2003; Keltner et al., 2003; Smith & Bargh, 2008). That is, people's level of power affects the way they regulate distance: High-power individuals maintain less distance and are faster to reduce distance from objects than low-power individuals. Stereotypes of high-power individuals echo this relationship; people expect them to keep less interpersonal distance and to be more likely to move towards and touch others, relative to low-power individuals (Carney et

al., 2005; Hall et al., 2005). We proposed that this relationship between approach behavior and power is bidirectional: Activating approach behavior should activate power. Thus, individuals should feel relatively more powerful when enacting approach behavior. We found support for this approach-to-power link in three experiments. Across two manipulations of approach/avoidance and three measures of power, approach behavior made participants feel more powerful than avoidance behavior. Though the effect sizes are small, as would be expected with such minimal manipulations, the results are very consistent.

In Experiment 1, we only found evidence for approach behavior increasing participants' sense of power, not for avoidance behavior decreasing participants' sense of power; the remaining experiments could not assess direction of effects due to lack of control conditions. This research thus tentatively adds to the growing body of literature suggesting the relationship between power and approach/avoidance is not symmetrical (Moskowitz, 2004). Indeed, in their research on the power-to-approach link, Smith and Bargh (2008) found more evidence for power leading to approach than for powerlessness leading to avoidance. These findings underline the importance of treating approach and avoidance as separate and independent concepts. Avoidance is not merely the opposite of approach.

This research also further clarifies the relationship between power and action. Though it is often stated that action itself is associated with power (Galinsky et al., 2003; Magee, 2009), and theories such as the Approach/Inhibition Theory of Power focus on how power disinhibits action, this research demonstrates that certain kinds of action, such as approach, may be more powerful than others.

Recent research has demonstrated some ways that power is physically encoded and displayed, such as postural expansion versus constriction (Carney et al., 2010; Huang, Galinsky,

Gruenfeld, & Guillory, 2011). Notably, this research has focused on bodily feedback linked to power, with participants maintaining their own bodies in specific positions. In contrast, only Experiment 2 involved physical movements directly associated with changing the distance between the self and a stimulus. The remaining experiments involved moving one object towards or away from another. In these experiments, approach and avoidance participants enacted the same physical movements (e.g., they pressed the same keys); these movements became approach or avoidance behaviors by dint of their psychological construal. In other words, participants in Experiments 1 and 3 did not derive their sense of power directly from specific bodily feedback. Thus, the relationship between approach behavior and power is not reliant on direct bodily feedback (e.g., Markman & Brendl, 2005), in contrast to the work on powerful postures by Carney et al. (2010) and Huang et al. (2011). One does not have to literally move closer to objects to feel powerful. One can simply mentally reframe one's movements to experience power.

The subtlety of these manipulations is particularly intriguing in its implications for how power differences perpetuate themselves. Smith and Bargh (2008) found that having power made individuals engage in more approach behavior. The present research found that engaging in approach behavior makes people feel more powerful. Combining these two lines of research, there appears to be a bidirectional relationship between power and approach behavior, one that can operate without individuals' awareness or intent, similar to the relationship between power and abstract thinking (Smith & Trope, 2006; Smith, Wigboldus, et al., 2008). This relationship not only strengthens the association between power and approach behavior, but also suggests a way hierarchies may be *unintentionally* maintained, particularly when one adds the finding that

observers also tend to ascribe more power to people who perform approach-related behavior (Magee, 2009).

A person's sense of power does not merely come from the job title after her name or the size of his office. It also emerges from subtle signals in the person's own thinking and behavior (Smith & Galinsky, 2010). Across three experiments, engaging in approach behavior led individuals to have a greater sense of power. In this way, motivational slogans such as "Go for it!" may be effective for multiple reasons: Not only do they encourage people to take actions that may gain them power, but the mere act of taking such approach action also makes people feel more powerful in the first place.

References

- Amodio, D. M., Master, S. L., Yee, C. M., & Taylor, S. E. (2008). Neurocognitive components of the behavioral inhibition and activation systems: Implications for theories of self-regulation. *Psychophysiology, 45*, 11-19.
- Anderson, C., & Berdahl, J. L. (2002). The experience of power: Examining the effects of power on approach and inhibition tendencies. *Journal of Personality and Social Psychology, 83*, 1362-1377.
- Cacioppo, J. T., Priester, J. R., & Berntson, G. G. (1993). Rudimentary determinants of attitudes: II. Arm flexion and extension have differential effects on attitudes. *Journal of Personality and Social Psychology, 65*, 5-17.
- Carney, D. R., Cuddy, A. J., & Yap, A.J. (2010). Power posing: Brief nonverbal displays affect neuroendocrine levels and risk tolerance. *Psychological Science, 21*, 1363-1368.
- Carney, D. R., Hall, J. A., & Smith LeBeau, L. (2005). Beliefs about the nonverbal expression of social power. *Journal of Nonverbal Behavior, 29*(2), 105.
- Carver, C. S. (2001). Affect and the functional bases of behavior: On the dimensional structure of affective experience. *Personality and Social Psychology Review, 5*, 345-356.
- Casasanto, D., & Boroditsky, L. (2008). Time in the mind: Using space to think about time. *Cognition, 106*, 579-593.
- Friedman, R. S., & Förster, J. (2000). The effects of approach and avoidance motor actions on the elements of creative insight. *Journal of Personality and Social Psychology, 79*, 477-492.
- Friedman, R. S., & Förster, J. (2001). The effects of promotion and prevention cues on creativity. *Journal of Personality and Social Psychology, 81*, 1001-1013.

- Friedman, R. S., & Förster, J. (2002). The influence of approach and avoidance motor actions on creative cognition. *Journal of Experimental Social Psychology, 38*, 41-55.
- Friedman, R. S., & Förster, J. (2005). Effects of motivational cues on perceptual asymmetry: Implications for creativity and analytical problem solving. *Journal of Personality and Social Psychology, 88*, 263–275.
- Galinsky, A. D., Gruenfeld, D. H., & Magee, J. C. (2003). From power to action. *Journal of Personality and Social Psychology, 85*, 453-466.
- Gray, J. A., & McNaughton, N. (2000). *The neuropsychology of anxiety*. London: Oxford University Press.
- Greenwald, A. G., & Farnham, S. D. (2000). Using the Implicit Association Test to measure self-esteem and self-concept. *Journal of Personality and Social Psychology, 79*, 1022-1038.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology, 74*, 1464-1480.
- Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the Implicit Association Test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology, 85*, 197-216.
- Haines, E. L., & Kray, L. J. (2005). Self-power associations: The possession of power impacts women's self-concepts. *European Journal of Social Psychology, 35*, 643-662.
- Hall, J. A., Coats, E. J., & Smith LeBeau, L. (2005). Nonverbal behavior and the vertical dimension of social relations: A meta-analysis. *Psychological Bulletin, 131*(6), 898-924.
- Harmon-Jones, E. (2003). Anger and the behavioral approach system. *Personality and Individual Differences, 35*, 995-1005.

- Higgins, E. T., Shah, J., & Friedman, R. (1997). Emotional responses to goal attainment: Strength of regulatory focus as moderator. *Journal of Personality and Social Psychology*, 72, 515–525.
- Huang, L., Galinsky, A. D., Gruenfeld, D. H., & Guillory, L. E. (2011). Powerful postures vs. powerful roles: Which is the proximate correlate of thought and behavior? *Psychological Science*, 22, 95-102.
- Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological Review*, 110, 265-284.
- Keltner, D., Van Kleef, G. A., Chen, S., & Kraus, M. W. (2008). A reciprocal influence model of social power: Emerging principles and lines of inquiry. In M. A. Zanna (Ed.), *Advances in Experimental Social Psychology* (pp. 151-192). San Diego, CA: Academic Press.
- Koch, S., Holland, R. W., Hengstler, M., & van Knippenberg, A. (2009). Body locomotion as regulatory process: Stepping backward enhances cognitive control. *Psychological Science*, 20, 549-550.
- Krieglmeyer, R., De Houwer, J., & Deutsch, R. (2011). How farsighted are behavioral tendencies of approach and avoidance? The effect of stimulus valence on immediate vs. ultimate distance change. *Journal of Experimental Social Psychology*, 47, 622-627.
- Landau, M. J., Meier, B. P., & Keefer, L. A. (2010). A metaphor-enriched social cognition. *Psychological Bulletin*, 136, 1045-1067.
- Magee, J. C. (2009). Seeing power in action: The roles of deliberation, implementation, and action in inferences of power. *Journal of Experimental Social Psychology*, 45(1), 1-14.
- Markman, A. B., & Brendl, C. M. (2005). Constraining theories of embodied cognition. *Psychological Science*, 16(1), 6-10.

- McCulloch, K.C., Aarts, H., Fujita, K., & Bargh, J.A. (2008). Inhibition in goal systems: A retrieval-induced forgetting account. *Journal of Experimental Social Psychology, 44*, 857-865.
- Moskowitz, D. S. (2004). Does elevated power lead to approach and reduced power to inhibition? Comment on Keltner, Gruenfeld, and Anderson (2003). *Psychological Review, 111*, 808-811.
- Nosek, B. A., Greenwald, A. G., & Banaji, M. R. (2005). Understanding and using the Implicit Association Test: II. Method variables and construct validity. *Personality and Social Psychology Bulletin, 31*, 166–180.
- Seibt, B., Neumann, R., Nussinson, R., & Strack, F. (2008). Movement direction or change in distance? Self- and object-related approach-avoidance motions. *Journal of Experimental Social Psychology, 44*, 713-720.
- Shah, J. Y., & Kruglanski, A. W. (2003). When opportunity knocks: Bottom-up priming of goals by means and its effects on self-regulation. *Journal of Personality and Social Psychology, 84*, 1109-1122.
- Smith, P. K., & Bargh, J. A. (2008). Nonconscious effects of power on basic approach and avoidance tendencies. *Social Cognition, 26*, 1-24.
- Smith, P. K., Dijksterhuis, A., & Chaiken, S. (2008). Subliminal exposure to faces and racial attitudes: Exposure to Whites makes Whites like Blacks less. *Journal of Experimental Social Psychology, 44*, 50-64.
- Smith, P. K., & Galinsky, A. D. (2010). The nonconscious nature of power: Cues and consequences. *Social and Personality Psychology Compass, 4*, 918–938

Smith, P. K., & Trope, Y. (2006). You focus on the forest when you're in charge of the trees:

Power priming and abstract information processing. *Journal of Personality and Social Psychology, 90*, 578-596.

Smith, P. K., Wigboldus, D. H. J., & Dijksterhuis, A. (2008). Abstract thinking increases one's sense of power. *Journal of Experimental Social Psychology, 44*, 378-385.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.

Footnotes

¹Keltner et al.'s (2003) theory links power to two neurobiological systems, the Behavioral Activation System (BAS) and the Behavioral Inhibition System (BIS) (e.g., Gray & McNaughton, 2000). The BIS reflects inhibition rather than avoidance (e.g., Amodio, Master, Yee, & Taylor, 2008) and thus this theory is not relevant to the present research.

²In all experiments, participant gender did not moderate approach/avoidance effects.

³The remaining 11 trait pairs (also previously used by Smith, Wigboldus, et al. (2008)) were not directly related to power or warmth (e.g., masculine-feminine, quiet-loud, boring-fun, ugly-beautiful). Out of these 11 pairs, only quiet-loud showed an effect of behavior condition, $F(2, 91) = 3.78, p = .03, \eta_p^2 = .08$, with control participants rating themselves as louder than approach and avoidance participants; $ps > .25$ for the remaining 10 pairs.

⁴We also obtained the same results with the conventional IAT score (e.g., Greenwald et al., 1998): Approach participants showed a stronger IAT effect than avoidance participants, $F(1, 75) = 4.59, p = .04, \eta_p^2 = .06$.

⁵To ensure these positions indeed appropriately varied in power, a separate group of 50 participants on Amazon Mechanical Turk were given the advertisements to read and then were asked to indicate on 9-point scales how much power they would have and how much control over other people they would have, if they had each job (0 = *no power/control at all*, 8 = *a great deal of power/control*). Responses to the two questions were averaged for each job (α s from .85 to .94) to create power composites. There was a significant effect of job on power composite ratings, $F(1, 49) = 100.61, p < .001, \eta_p^2 = .67$. The ad designer ($M = 3.22, SD = 1.70$) and personnel administrator jobs ($M = 2.67, SD = 2.04$) did not significantly differ from each other in terms of their rated power, $p = .12$, but each was seen as less powerful than the production

manager ($M = 6.54$, $SD = 1.15$) and personnel director jobs ($M = 6.68$, $SD = 1.07$), $ps < .001$. The latter two jobs were not rated differently from each other, $p = .30$.

Figure Captions

Figure 1. Comfort with low- vs. high-power jobs by behavior condition. Error bars represent one standard error of the mean.

