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# Dispositional Anxiety Blocks the Psychological Effects of Power

Jon K. Maner<sup>1</sup>, Matthew T. Gailliot<sup>1</sup>, Andrew J. Menzel<sup>1</sup>,  
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## Abstract

A growing body of research demonstrates that power promotes a fundamental orientation toward approach and agency. The current studies suggest that this tendency is moderated by dispositional anxiety. In two experiments, high levels of dispositional anxiety blocked the psychological effects of power. Although people low in anxiety responded to a power prime with greater willingness to take risks, those high in anxiety did not (Experiment 1). Similarly, whereas those low in social anxiety responded to power with increased sexual attraction toward a confederate, individuals high in social anxiety failed to show the same effect (Experiment 2). In both studies, the interaction between power and anxiety was statistically mediated by perceptions of reward. Although power enhanced people's perceptions of reward, this effect was eliminated by high levels of dispositional anxiety. This research provides insight into how, and in whom, power promotes approach and agentic behavior.

## Keywords

power, anxiety, social cognition, individual differences, behavioral inhibition

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Power exerts a tremendous influence on psychology and behavior. Power—operationally defined as a person's relative control over group resources—has profound implications for a vast array of processes, including leadership, decision making, social perception, group behavior, and intergroup psychology (Anderson & Berdahl, 2002; Gruenfeld, Inesi, Magee, & Galinsky, 2008; Magee & Galinsky, 2008; Magee & Langner, 2008; Maner & Mead, 2010). Thus, understanding when and how power operates provides valuable insight into a broad range of important social-psychological phenomena.

One of the overarching frameworks used to understand power's effect on perception and behavior was developed by Keltner and colleagues, who posited that having power leads people to become approach oriented and agentic (Keltner, Gruenfeld, & Anderson, 2003). A range of studies have provided support for this overarching hypothesis (e.g., Boksem, Smolders, & De Cremer, 2012; Galinsky, Gruenfeld, & Magee, 2003; Lammers, Stoker, & Stapel, 2009; Smith & Bargh, 2008).

However, different people respond to power in different ways, and an important goal for researchers is to identify individual differences that determine people's responses to power. Among whom, in particular, does power lead to greater agency and approach motivation? Conversely, among whom might power *not* increase the propensity to display these processes? Despite an implicit assumption that

power universally leads to approach and agency, there are reasons to think that particular factors within the person may block these effects of power.

The current article investigates an individual difference variable—dispositional anxiety—hypothesized to buffer people against power's effect on agency and approach. We report two studies using rigorous manipulations of power to test for moderating effects of dispositional anxiety. In the following sections, we describe recent evidence for power's effects on motivation and action, as well as predictions pertaining to the moderating effects of anxiety.

## Motivational Consequences of Power

Power reflects people's control over social and material resources. Having power affords people the ability to influence others by manipulating access to those resources through reward and punishment. Moreover, powerful

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individuals tend to be relatively invulnerable to sanction from others. Indeed, throughout human history, powerful individuals have experienced the luxury of resource-rich environments and social influence while enjoying the relative freedom to act without concern of serious reprisal. Simply put, the environment tends to be a rewarding place for people with power.

As a result of the disproportionate exposure to reward versus punishment, power tends to evoke a pronounced orientation toward behavioral approach (Galinsky et al., 2003; Maner, Kaschak, & Jones, 2010; Smith & Bargh, 2008; Smith, Jost, & Vijay, 2008). This tendency can be understood through the lens of reward sensitivity theory and one of its components—the behavioral activation system (H. J. Eysenck, 1967; Fowles, 1987; Gray & McNaughton, 2000; see also Carver & White, 1994; Elliot & Thrash, 2002). Based largely on Gray's work (e.g., Gray, 1972, 1981), the behavioral activation system has been linked to evolved neural structures involved in seeking reward and approaching novel and potentially exciting experiences. The behavioral activation system is involved in appetitive motivations and is engaged when people approach desired outcomes. Because power changes the affordance structure of the environment—increasing the prevalence of potential rewards—it is presumed to enhance the relative strength of the behavioral activation system.

Indeed, an impressive body of research demonstrates that power leads people to become more agentic and action oriented. Granting people power within a group or experimentally priming feelings of power leads people to take risks, to exert greater influence in social interactions, to become sexually forward, and to behave agonistically toward aversive stimuli (Anderson & Galinsky, 2006; Galinsky et al., 2003; Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008; Guinote, 2007; Kunstman & Maner, 2011; Maner, Gailliot, Butz, & Peruche, 2007). Thus, power truly is a catalyst for action.

Several indirect pieces of evidence suggest that power's effects on approach and agency may be mediated in part by heightened perceptions of reward. The behavioral effects of power reflect activity within the behavioral activation system, and reward-seeking is a central component of that system (Gray, 1981). Moreover, evidence suggests that power promotes heightened attention to potential rewards (DePue, 1995) and attention to rewards is an important first step in goal pursuit because it prompts action (Posner & Petersen, 1990). Anderson and Berdahl (2002) found that power was associated with heightened perceptions of social rewards in face-to-face interactions, and, consequently, powerful people were more agentic and influential in those interactions. Kunstman and Maner (2011) demonstrated that power led people to display greater sexual approach behaviors toward a subordinate, and this effect was mediated by heightened perceptions of how sexually receptive the subordinate was. Thus, power may ignite goal pursuit in part by enhancing people's

perceptions of potential rewards associated with their actions, whether those rewards are material, social, or sexual in nature.

## Moderating Effects of Anxiety

In the current investigation, we hypothesize that anxiety will block the effects of power on approach and agency. Whereas power involves the behavioral activation system, anxiety reflects the operation of the behavioral inhibition system (M. W. Eysenck, 1992; Gray, 1982, 1987). The behavioral inhibition system is designed to detect and resolve forms of threat or conflict. This system promotes vigilance to threat and downregulates activity associated with behavioral activation so as to avoid potential danger. Indeed, anxiety is marked by a pattern of negative affect, hypervigilance to threat, and avoidant behavior (Bar-Haim, Lamy, & Glickman, 2005; Gao & Huang, 2008; Shimizu, Seery, Weisbuch, & Lupien, 2011) and is a key mechanism through which people avoid potential harm (M. W. Eysenck, 1992; Gray, 1982).

There are individual differences in the strength and chronicity with which people experience anxiety. Individuals high in anxiety are generally less likely than those low in anxiety to take risks, to enter into potentially embarrassing social situations, and to approach novel stimuli (Maner, Richey, et al., 2007; Maner & Schmidt, 2006; Stöber, 1997). Because many agentic, approach-oriented behaviors involve some degree of potential risk, anxiety—due to its link with behavioral inhibition—might reduce powerful individuals' tendency to behave in agentic and approach-oriented ways. That is, anxiety might buffer against power's effect on heightened agency and approach.

Moreover, there are reasons to expect that anxiety will reduce the psychological experience of power and, therefore, also the pattern of agency and approach typically observed among powerful individuals. Indeed, in understanding the consequences of power, it is useful to distinguish between structural power (i.e., an individual's actual level of resource control) and psychologically experienced power (i.e., a person's subjective sense of power and control). Although these two constructs are highly correlated, insofar as people in control of resources likely feel powerful, they are not identical. It is possible, for instance, for people to perceive themselves as having power over others, while lacking the bona fide ability to control others' outcomes. Conversely, it is plausible that some people might experience a heightened level of resource control (e.g., by virtue of their position within a social hierarchy) but nevertheless not perceive themselves as having much power or influence.

The potential for slippage between structural power and psychologically experienced power has implications for the way people respond to powerful positions within a social hierarchy. Although many empirical investigations of power endow people with structural power, it is presumed that

changes in people's cognition and behavior are caused by the experience of power at a psychological level—that is, by feeling powerful (e.g., Keltner et al., 2003). Indeed, structural power, absent an accompanying sense of psychological power, would not be expected to promote the typical pattern of approach and agentic behavior.

Evolutionary theories of anxiety imply that anxiety may prevent people, even those holding positions of high power, from experiencing a strong sense of psychological power. Evolutionarily inspired work suggests that high levels of anxiety can reflect concerns pertaining to a lack of social dominance; anxious individuals tend to see themselves as nondominant and as lacking control over other people (e.g., Barkow, 1975; Öhman, 1986; also Maddux, Norton, & Leary, 1988). Consequently, anxious individuals tend to inhibit their own dominant behavior and shy away from dominant roles to avoid harm from more dominant individuals (Öhman, 1986).

This link between anxiety and submissiveness is reflected in their shared association with low testosterone. High testosterone levels mediate the expression of dominance, whereas low testosterone levels are typically associated with submissiveness (Mazur & Booth, 1998; Mehta & Josephs, 2006). A number of studies suggest that anxious individuals display relatively low levels of testosterone (de Bruin, Verheij, Weigman, & Ferdinand, 2006; Granger et al., 2003). Moreover, men high in anxiety (but not low in anxiety) have been shown to display large drops in testosterone when their dominance is challenged (Maner, Miller, Schmidt, & Eckel, 2008).

In a related line of research, when individuals low in testosterone were placed into a dominant position, they displayed signs of heightened anxiety and decrements in cognitive performance; this apparently was due to the mismatch that arose when people who tended to feel submissive were placed into a dominant role (Josephs, Sellers, Newman, & Mehta, 2006). This pattern is similar to the one observed in sparrows: low-status sparrows were experimentally given marks indicative of high status; nevertheless, those marks did not translate into more dominant behavior. Instead, the low-status birds, due to their lack of dominance, became even more submissive and were attacked by more dominant birds (Møller, 1987).

Taken together, there is considerable evidence that anxious individuals tend to experience not just behavioral inhibition but also low levels of dominance. Consequently, anxious individuals tend to respond to dominance-related situations in avoidant and submissive ways. Thus, individuals high in anxiety might not respond to positions of power and resource control by experiencing strong subjective feelings of power. That is, for anxious individuals, filling a powerful role might not translate into a strong sense of dominance or control. If anxiety blocks the psychological experience of power, then it would also be expected to block the pattern of

agency and approach typically observed among powerful individuals.

## The Current Research

The overarching prediction guiding the current investigation was that dispositional anxiety would moderate the effect of power on approach-related outcomes. We tested this hypothesis within two domains: risk-seeking (Experiment 1) and sexual attraction (Experiment 2). Both reflect contexts in which power has been demonstrated to produce agentic, approach-oriented actions. In each experiment, we manipulated participants' level of power and tested for moderating effects of anxiety. We hypothesized that individuals low in anxiety would respond to power with increased risk-seeking and sexual attraction, whereas individuals high in anxiety would not.

Prior to each experiment, we also report preliminary data bearing on the possibility that anxiety might prevent highly anxious people from feeling powerful. That is, highly anxious individuals, compared with those low in anxiety, might not respond to powerful roles with the same degree of psychologically experienced power.

Finally, given that previous work has identified reward perceptions as a mediator of power's effect on approach, we assessed the mediating role of reward perceptions in both of the current experiments. We anticipated that individuals low in anxiety would respond to power with a heightened sense of reward and, consequently, increased approach. We also anticipated that individuals high in anxiety would display neither heightened reward perceptions nor approach.

## Experiment 1—Risk-Seeking

Many choices involve some prospects of either positive or negative consequences. For example, choosing to start a conversation with a stranger could result in a new friendship (a reward) or it could result in rejection and embarrassment (a punishment). Powerful people tend to focus optimistically on potential rewards associated with their choices. As a result, power tends to increase people's acceptance of risk (e.g., Anderson & Galinsky, 2006; Galinsky et al., 2003). Moreover, the strong focus on rewards exhibited by powerful people implies that the effect of power on increased risk-seeking might be mediated by perceptions of how likely risky behaviors are to produce desirable outcomes.

We predicted, however, that these effects of power on reward perception and risk-seeking would be moderated by anxiety. When primed with power, we expected that those high in anxiety would not respond with greater perceptions of positive outcomes or with greater willingness to take risks. Thus, although power might beget risk for most participants, we expected high dispositional levels of anxiety to buffer against this pattern.

## Preliminary Study

Experiment 1 used an essay priming procedure from previous studies (e.g., Galinsky et al., 2003). Prior to reporting Experiment 1, we report a preliminary study designed to assess the possibility that participants high versus low in anxiety would respond to the essay manipulation in different ways. First, we wanted to ensure that, relative to those low in anxiety, participants high in anxiety would take the essay task just as seriously and would be as able to vividly imagine themselves in a power-related role. Second, we wanted to ensure that participants high versus low in anxiety would write about situations that involved similar levels of power and resource control. Third, we wanted to evaluate the extent to which the priming manipulation might lead participants high in anxiety, relative to those low in anxiety, to experience lower feelings of power (i.e., lower levels of psychologically experienced power).

A sample of 78 undergraduate participants completed either a power prime essay or a control essay. Participants in the power condition wrote an essay about a time in which they experienced power over an individual or group. In the control condition, participants wrote a neutral essay about something they did yesterday. Participants were given 15 min to write the priming essay. In addition, participants completed a widely used measure of social anxiety—the Social Phobia Scale (Mattick & Clarke, 1998)—which assesses anxiety in social situations (e.g., “I have difficulty making eye contact with others”; “I get nervous if I have to speak with someone in authority [teacher, boss, etc.]”).

After participants had written a power or control essay, we had the essays content coded by two coders who were blind to participants’ anxiety score. Coders first rated the essays on how much participants (a) wrote about the situation in a detailed way and (b) put himself or herself vividly in the moment. These items were combined to form a composite measure of how vivid and detailed the essays were ( $r = .79$ ). Second, coders rated the situations/roles that participants wrote about in terms of (a) how much power/resource control the participant seemed to have and (b) how much influence participants had over others in the situation ( $r = .89$ ). Third, to assess how powerful participants themselves may have felt in the situation, coders counted the number of times participants mentioned feeling powerful (including mentions such as feeling in control, being in charge, having authority, etc.). The more powerful participants felt, the more they presumably would have mentioned those elements of their experience. Thus, evaluating the extent to which participants mentioned those elements provided an indirect measure of how powerful participants felt.

Each of these dependent measures was regressed on priming condition, anxiety scores, and their centered interaction. Results indicated, first, that participants low in anxiety took the task just as seriously as those high in anxiety did and were just as able to put themselves vividly in the moment; on

this measure, we observed only a main effect of priming condition, such that those in the control condition wrote essays that were more vivid and detailed than those in the power condition,  $\beta = .29$ ,  $p = .01$ . This was likely a function of the greater temporal proximity of the essays in the control condition (writing about something yesterday, as opposed to sometime in the past). Notably, priming condition did not interact with anxiety scores,  $p = .76$ .

Results also indicated that participants high versus low in anxiety wrote about situations and roles that involved equivalent levels of power, resource control, and influence. On this measure, we observed only the expected main effect of power,  $\beta = .90$ ,  $p < .001$ . No interaction between priming condition and social anxiety was observed,  $p = .31$ .

Finally, the content analysis suggested that those high in anxiety responded to the power prime with lower feelings of power than nonanxious participants did. Priming condition interacted with anxiety scores to predict the degree to which participants mentioned feeling powerful,  $\beta = .25$ ,  $p < .008$ . Among those low in anxiety (1 *SD* below the *M*), the power prime (relative to control) had a very large effect on mentions of feeling power,  $\beta = .86$ ,  $p < .001$ , semipartial correlation ( $sr$ ) = .59. Among people high in anxiety (1 *SD* above the *M*), the power prime (relative to the control condition) still increased mentions of feeling powerful, but to a much smaller extent,  $\beta = .36$ ,  $p < .01$ ,  $sr = .25$ ; the size of the priming effect among anxious participants was less than half of that observed among those low in anxiety.

Thus, results indicate that, despite writing about situations involving similar degrees of power and resource control, participants high in anxiety did not mention feeling powerful to the same extent as those low in anxiety did. This difference was observed despite the fact that participants high versus low in anxiety wrote essays that were equally detailed and vivid. This preliminary study therefore provides initial evidence that high levels of anxiety might block people from feeling powerful. In Experiment 1, we went on to test whether high levels of anxiety would block people from displaying optimistic outcome expectancies and willingness to take risks—processes typically observed among powerful people.

## Method

**Participants and procedure.** Sixty-six undergraduate psychology students (42 women, 24 men) participated for course credit. Participants arrived at the lab for a study involving two ostensibly unrelated studies.

Immediately after undergoing the essay priming manipulation (see “Preliminary Study”), participants completed self-report measures of mood (6 items, “I feel interested,” “I feel sad”;  $\alpha = .75$ ) and arousal (6 items, “I feel calm,” “I am tense”;  $\alpha = .78$ ). Next, participants were told that they would advance to the next study, ostensibly consisting of self-report items being piloted for future research. Participants then completed a widely used self-report measure of risk-seeking—the



Risk-Taking Behaviors Scale (RTBS; Weber, Blais, & Betz, 2002). We used a 27-item version used in previous research (Maner & Gerend, 2007) to evaluate people's willingness to take risks in several domains including health ("engaging in unprotected sex"), recreation ("trying out bungee jumping at least once"), ethics ("illegally copying a piece of software"), social interaction ("defending an unpopular issue that you believe in at a social occasion"), and gambling ("betting a day's income at a high stakes poker game"). Participants responded to each item by indicating how likely they would be to perform the behavior if given the opportunity (1 = *very unlikely*, 5 = *very likely*). A composite measure of risk-seeking was calculated by averaging across items ( $M = 2.80$ ,  $SD = 0.62$ ,  $\alpha = .87$ ).

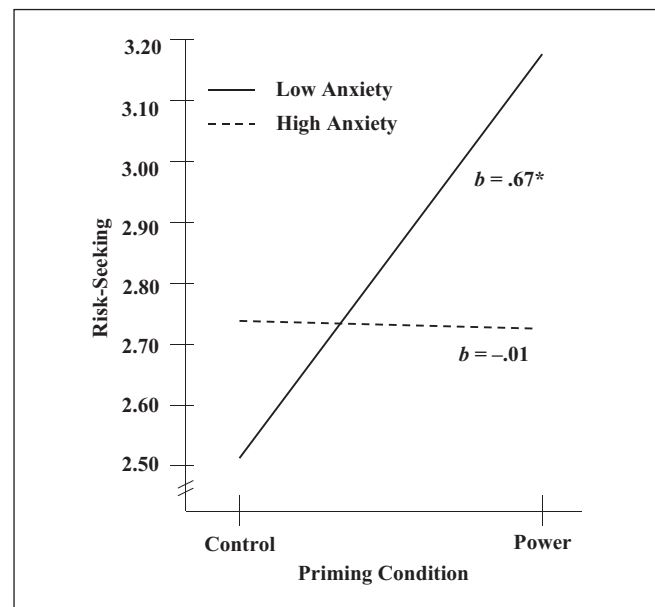
Before measuring participants' willingness to perform each of the behaviors on the RTBS, we assessed perceptions of potential rewards associated with risk-taking. For each of the behaviors on the RTBS, participants were asked to "take a moment to think about the possible good outcomes of performing that behavior, including the emotional, social, and physical consequences." For each behavior, participants then indicated how likely they thought those consequences were to occur (1 = *very unlikely*, 5 = *very likely*;  $M = 3.21$ ,  $SD = 0.44$ ;  $\alpha = .73$ ).

To assess individual differences in anxiety, participants completed Spielberger et al.'s (1979) trait anxiety scale, a 10-item measure of general anxiety levels (e.g., "I get in a state of tension or turmoil as I think over my recent concerns and interests," "I worry too much over things that don't really matter," "I feel nervous and restless," "I am a steady person" [reverse-scored]). Participants responded in terms of how they feel most of the time (1 = *almost never*, 5 = *almost always*). Responses were averaged after reverse scoring appropriate items ( $\alpha = .84$ ;  $M = 2.49$ ,  $SD = 0.73$ ). Responses to the anxiety scale did not differ by experimental condition,  $F < 1$ .

## Results and Discussion

Preliminary analyses confirmed that there were no significant differences between conditions in participants' mood ( $p = .11$ ) or level of arousal ( $p = .28$ ). Moreover, neither mood ( $p = .78$ ) nor arousal ( $p = .77$ ) was correlated with participants' level of risk-seeking. Thus, any effects of power on risk-seeking cannot be attributed to changes in mood or arousal.

Hierarchical regression was used to evaluate the hypothesis that the power manipulation would interact with dispositional anxiety to affect risk-seeking. Risk-seeking scores were regressed on priming condition, level of anxiety, participant sex, and their centered interactions. In addition to a main effect of participant sex,  $\beta = .32$ ,  $p = .008$ ,  $sr = .32$ , such that men were higher in risk-seeking than women, we observed a main effect of power,  $\beta = .27$ ,  $p = .02$ ,  $sr = .27$ , such that power priming (compared with the control condition) increased risk-seeking. This replicates previous



**Figure 1.** Participants low in anxiety responded to power with increased levels of risk-seeking.

Note: Power had no effect on those high in anxiety. Coefficients are unstandardized regression weights.

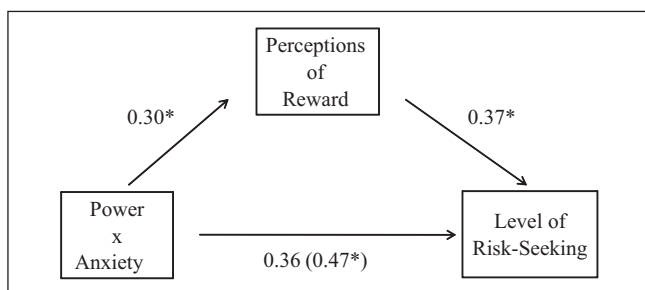
\* $p < .05$ .

evidence for the link between power and risk (e.g., Anderson & Galinsky, 2006).

However, the main effect of power was qualified by the predicted interaction between power and anxiety,  $\beta = .27$ ,  $p = .02$ ,  $sr = .27$  (see Figure 1). No other significant effects were found. As expected, those low in anxiety (1  $SD$  below the  $M$ ) responded to power with higher levels of risk-seeking,  $\beta = .54$ ,  $p = .001$ ,  $sr = .38$ . No such effect was observed among participants high in anxiety (1  $SD$  above the  $M$ ),  $\beta = .01$ ,  $p = .97$ ,  $sr = .01$ .

A similar pattern was observed when analyzing perceptions of reward. We observed an interaction between power and anxiety,  $\beta = .24$ ,  $p = .04$ ,  $sr = .23$ . Those low in anxiety (1  $SD$  below the  $M$ ) responded to power with heightened perceptions of reward,  $\beta = .44$ ,  $p = .009$ ,  $sr = .30$ . No such effect was observed among participants high in anxiety (1  $SD$  above the  $M$ ),  $\beta = .05$ ,  $p = .75$ ,  $sr = .04$ .

To assess whether perceptions of reward mediated the interactive effect of power and anxiety on risk-seeking, we conducted a mediational analysis. When perceptions of reward were included in the model predicting participants' level of risk-seeking, the previously significant interaction between power and social anxiety was no longer statistically significant,  $p = .08$ , while perceptions of reward continued to predict risk-seeking,  $\beta = .27$ ,  $p = .04$ ,  $sr = .23$ . Mediation was tested using ProdClin (MacKinnon, Fritz, Williams, & Lockwood, 2007), a procedure that computes an asymmetric confidence interval (CI) around the point estimate of the indirect effect. This procedure optimizes Type I error rates



**Figure 2.** Perceptions of positive outcomes (rewards) partially mediated the interaction between power and anxiety on participants' level of risk-seeking

Note: Coefficients are unstandardized regression weights.

\* $p < .05$ .

and increases statistical power over other traditional tests of mediation (e.g., Sobel tests). This test confirmed that the size of the mediated effect differed significantly from zero ( $CI = [0.20, 1.29]$ ),  $p < .05$ , indicating that the interaction between power and anxiety on risk-seeking was mediated by perceptions of reward (see Figure 2).

Thus, findings from Experiment 1 support the hypothesis that effects of power are moderated by levels of anxiety. Unlike other participants, individuals high in anxiety did not respond to power with increased risk-seeking. Moreover, findings suggest that this pattern was at least partially mediated by perceptions of potential reward. Individuals low in anxiety responded to the power prime with increased perceptions of reward and, in turn, greater risk-seeking. Individuals high in anxiety, however, showed no evidence of heightened reward perception. These findings are consistent with the hypothesis that anxiety would block participants' experience of heightened power, approach, and agency. One possible interpretation is that high dispositional levels of anxiety prevented participants in the power condition from feeling especially powerful. However, because the procedure relied on recalling a personal experience, the extent to which the manipulation directly manipulated actual power, subjective feelings of power, or some combination of the two, is not completely clear. Therefore, Study 2 used a procedure that more systematically manipulated people's level of actual power and resource control.

## Experiment 2—Sexual Attraction

Experiment 2 tested the hypothesis that power and anxiety would interact to influence psychological processes associated with sexual attraction. Like other social rewards, power can bias people's perceptions of others' sexual receptivity and lead powerful people to optimistically believe that their sexual advances will be reciprocated by subordinates (Kunstman & Maner, 2011). Moreover, power's propensity to bias perceptions of sexual interest has been linked to increases in sexually tinged social behavior. When those in

power perceive their subordinates as displaying sexual interest, they are more likely to flirt and engage in sexual approach.

The current experiment tested whether effects of power on sexual attraction would be moderated by anxiety. Among individuals low in anxiety, we predicted that power would heighten perceptions of sexual interest from subordinates and that those perceptions would lead powerful people to become sexually attracted to their subordinates. In contrast, we predicted that anxiety would buffer against this pattern, such that those high in anxiety would fail to display evidence for heightened perceptions of sexual interest or increased sexual attraction toward subordinates. To test these hypotheses, participants interacted with a trained opposite-sex confederate, either as equals or under conditions in which participants had power over their partner. We evaluated participants' perceptions of their partner's level of sexual interest as well as their own level of sexual attraction toward the partner. This method extended the current investigation by assessing interactive effects of power and anxiety within a different domain, and within the context of a face-to-face social interaction.

## Preliminary Study

Experiment 2 used a procedure in which some participants were given power over a subordinate during a dyadic task. To assess whether individuals high in anxiety (relative to nonanxious individuals) might respond to this manipulation with lower subjective feelings of power, we conducted a preliminary study. We asked an independent sample of 29 participants to imagine themselves in the same role of power to be used in Experiment 2: They imagined that they were assigned to a managerial position within a dyadic task (the task consisted of building a structure out of Lego blocks). Their assignment to the managerial position was ostensibly based on questionnaire responses indicating that they had a high degree of leadership ability. Participants were told that they would decide how to structure the task and direct the worker. They would also get to evaluate the worker at the end of the task and, on the basis of that evaluation, decide how to divide the credits received for participation in the study. These instructions were adapted from previous research (e.g., Galinsky et al., 2003) and were identical to those used in Experiment 2. After imagining themselves in this situation, participants responded to items assessing their feelings of power (how powerful they anticipated feeling and how much influence they anticipated feeling over their partner;  $r = .44$ ) and affective reactions (how excited they would be in the situation and how much enjoyment they anticipated having;  $r = .68$ ).

Consistent with our expectations, findings demonstrated that although all participants imagined themselves in the same powerful role, anxious participants anticipated feeling significantly less powerful/influential,  $r = -.39$ ,  $p = .035$ . Highly anxious participants also anticipated being less

excited and having less enjoyment in the situation,  $r = -.55$ ,  $p = .002$ . These preliminary findings are consistent with the expectation that, despite the same level of power, highly anxious participants (compared with those low in anxiety) might not feel as powerful. In Experiment 2, we used an interpersonal version of this manipulation in which participants were given power over a partner. We evaluated interactive effects of power and anxiety on perceptions of sexual interest and feelings of sexual attraction toward the partner.

## Method

**Participants and procedure.** Sixty undergraduate psychology students (28 women, 32 men) participated in partial fulfillment of a course requirement. Participants arrived for a study ostensibly involving performance on group tasks and were told that they would be working on a puzzle task with another participant (actually a confederate). Participants then completed a short questionnaire purportedly assessing their leadership abilities.

After ostensibly scoring the questionnaire, experimenters assigned participants to a position of power or control. Participants in the power condition were told that their responses to the questionnaire indicated high levels of leadership ability, that they were being assigned to the role of leader, and that their partner had been assigned the role of worker. Participants in the power condition were told that they would structure the task and direct the worker. They would also get to evaluate the worker at the end of the session and, on the basis of that evaluation, decide how to divide the credits received for participation in the study. These instructions were adapted from previous research (Galinsky et al., 2003). Participants assigned to the control condition were also told that they had a high level of leadership ability (so that both conditions involved the same degree of positive feedback). However, control participants instead were told that both group members would have equal authority in performing the task and that rewards for being in the study would be divided equally.

Participants were then taken to another room and introduced to an opposite-sex confederate. One female and one male research assistant served as confederates. To ensure equivalence between the confederates, an independent sample of undergraduates (15 men and 24 women) rated photos of the confederates on their level of attractiveness (1 = *very unattractive*, 7 = *very attractive*). These ratings confirmed that the male confederate ( $M = 4.74$ ,  $SD = 0.99$ ) and female confederate ( $M = 4.68$ ,  $SD = 0.95$ ) were perceived as slightly above average in attractiveness. To increase the physical similarity between the two confederates, the two dressed similarly (e.g., they both wore jeans, t-shirt, and a baseball cap) during their sessions.

The participant and confederate were shown a picture of a puzzle made from Legos and were asked to build the same puzzle to the best of their ability. Participants then worked on

this task for about 10 min. Confederates, who were kept blind to participants' anxiety score and condition assignment, were trained to interact with the participant in a neutral fashion and to follow the participant's lead throughout the task. Confederates were trained to be cordial to the participant, but not overly friendly. After working on the puzzle task, the participant was taken to a different room and given a questionnaire that included the primary dependent measures.

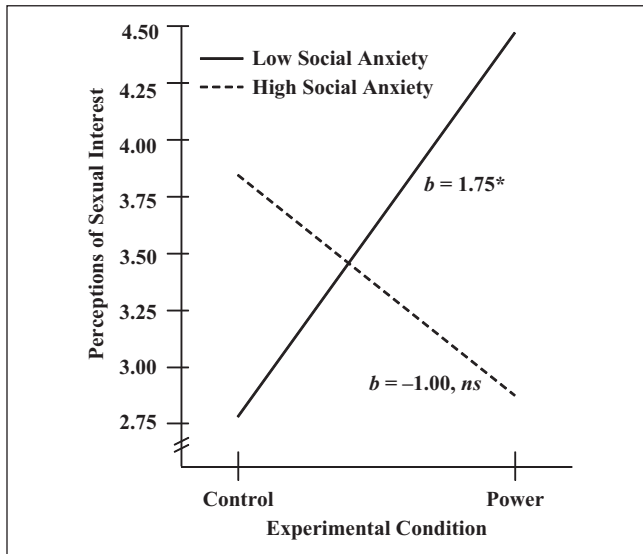
**Measures.** Participants responded to measures assessing their perceptions of how the confederate felt about them (perceived general liking and perceived sexual interest) as well as their own feelings toward the confederate (general liking and sexual attraction). Measures of general liking were included to rule out the possibility that any effects of power on sexual perception were reflective of a more general propensity to view others as expressing social approval or acceptance (see Kunstman & Maner, 2011, for a similar approach).

To assess perceptions of general liking displayed by the confederate, participants indicated the extent to which (a) they thought their partner would be interested in getting to know them and (b) they thought their partner would like the opportunity to work with them again in the future (1 = *not at all*, 9 = *very much*;  $r = .85$ ). These items were averaged to create a composite ( $M = 5.84$ ,  $SD = 1.31$ ). To assess perceptions of sexual interest displayed by the confederate, participants indicated the extent to which (a) they thought their partner had experienced sexual or romantic feelings toward them during the interaction and (b) they thought their partner would like to go out on a date with them (1 = *not at all*, 9 = *very much*;  $r = .81$ ). These items were averaged to create a composite ( $M = 3.38$ ,  $SD = 1.99$ ). The sexual perception and perceived general liking measures were moderately correlated,  $r = .36$ ,  $p < .001$ .

To assess general liking felt by the participant toward the confederate, participants indicated the extent to which (a) they would be interested in getting to know their partner and (b) they would like it if they were given the opportunity to work with their partner again in the future (1 = *not at all*, 9 = *very much*;  $r = .70$ ). These items were averaged to create a composite ( $M = 6.88$ ,  $SD = 1.33$ ). To assess sexual attraction toward the confederate, participants indicated the extent to which (a) they experienced sexual or romantic feelings toward their partner during the interaction and (b) they would like to go out on a date with their partner (1 = *not at all*, 9 = *very much*;  $r = .73$ ). These items were averaged to create a composite ( $M = 3.73$ ,  $SD = 2.10$ ). Measures of general liking and sexual attraction were moderately correlated,  $r = .32$ ,  $p = .002$ .

Participants' level of social anxiety was assessed with the Social Interaction Anxiety Scale (Mattick & Clarke, 1998), a widely used 20-item measure of anxiety in social situations (e.g., "When mixing socially, I am uncomfortable," "I find it difficult to disagree with another's point of view," "I have difficulty making eye contact with others"; 0 = *not at all characteristic of me*, 4 = *extremely characteristic of me*;  $M = 1.29$ ,





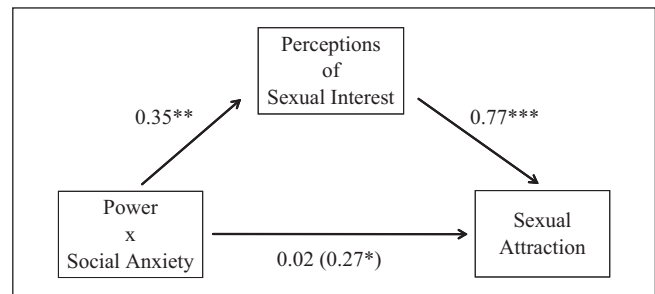
**Figure 3.** Participants low in social anxiety responded to power by perceiving higher levels of sexual interest from the confederate. Note: Power had no significant effect on those high in social anxiety. Coefficients are unstandardized regression weights. \* $p < .05$ .

$SD = 0.66$ ;  $\alpha = .87$ ). Social anxiety scores did not vary by experimental condition,  $F < 1$ .

## Results and Discussion

Hierarchical regression was used to evaluate the hypothesis that power would interact with social anxiety to increase perceptions of sexual interest and, in turn, sexual attraction toward the confederate. Participants' perceptions of sexual interest were regressed on experimental condition, level of anxiety, participant sex, and their centered interactions. Results revealed the predicted interaction between power and anxiety,  $\beta = .35$ ,  $p = .01$ ,  $sr = .32$  (see Figure 3). As expected, those low in anxiety (1  $SD$  below the  $M$ ) responded to power by perceiving the confederate as more sexually interested,  $\beta = .44$ ,  $p = .02$ ,  $sr = .30$ . No such effect was observed among participants high in anxiety (1  $SD$  above the  $M$ ),  $p = .16$ . Although we observed a main effect of participant sex, such that men reported greater perceptions of sexual interest than women did,  $\beta = .39$ ,  $p = .003$ , participant sex did not moderate effects of the power manipulation,  $p = .58$ .

A similar pattern was observed when analyzing participants' sexual attraction felt toward the confederate. We observed the predicted interaction between power and social anxiety,  $\beta = .27$ ,  $p = .03$ ,  $sr = .25$ . Participants low in anxiety (1  $SD$  below the  $M$ ) responded to power with heightened sexual attraction toward the confederate,  $\beta = .34$ ,  $p < .05$ ,  $sr = .22$ . No effect of power was observed among participants high in anxiety (1  $SD$  above the  $M$ ),  $p = .20$ .



**Figure 4.** Perceptions of sexual interest statistically mediated the interaction between power and social anxiety on sexual attraction. Note: Coefficients are unstandardized regression weights.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

To test the hypothesis that perceptions of sexual interest would mediate the interactive effect of power and social anxiety on increased sexual attraction, we conducted a mediational analysis. When perceptions of sexual interest were included in the model predicting participants' level of sexual attraction toward the confederate, the previously significant interaction between power and social anxiety was eliminated,  $\beta = .01$ ,  $p = .86$ . As in Experiment 1, we used ProdClin to assess whether perceptions of sexual interest statistically mediated the interactive effect of power and anxiety on sexual attraction. This test confirmed that the effect was mediated by perceptions of sexual interest (CI for the mediated effect =  $[0.44, 3.00]$ ),  $p < .05$  (see Figure 4).

Supplemental analyses examined whether these findings were specific to the domain of sexual attraction or whether they generalized to broader perceptions of general liking and desire for affiliation. These analyses confirmed that results were specific to sexual attraction. No significant main effects or interactions associated with power or social anxiety were observed for perceptions of general liking or for participants' general desire for affiliation with the confederate. Indeed, the only significant effect was a main effect of participant sex, such that women reported a stronger desire to be friends with the confederate than men did,  $\beta = .32$ ,  $p = .02$ .

Consistent with hypotheses, in a face-to-face social interaction, power enhanced perceptions of sexual interest from subordinates of the opposite sex. In turn, these heightened perceptions of sexual interest were associated with increased levels of sexual attraction. Moreover, as hypothesized, this power-motivated pattern of cognition was unique to those low in social anxiety; no effects were observed among individuals high in social anxiety. Social anxiety apparently insulated individuals from power's capacity to elicit heightened perceptions of social reward and sexual attraction. Together, these results provide further evidence consistent with the hypothesis that dispositional anxiety plays a role in determining power's effect on perception and approach.

In this study, we observed a main effect of sex, such that men perceived more sexual interest than women did; this sex difference is consistent with previous research (e.g., Haselton & Buss, 2000). However, we observed no moderating effect of sex: We saw no evidence that men reacted more strongly to power than women did. These effects reinforce recent work suggesting that men and women respond to power with equivalent increases in sexual attraction (Kunstman & Maner, 2011) and infidelity (Lammers, Stoker, Jordan, Pollman, & Stapel, 2011). These findings are also consistent with the view that, although men and women may differ in prepotent levels of motivations related to power and sex, activating those motivations alters men's and women's sexual cognition to a similar degree. Nevertheless, instances of sexual harassment are more frequently perpetrated by men, relative to women (U.S. Equal Employment Opportunity Commission, 2012). One possible explanation is that men (compared with women) tend to more frequently hold positions of power and authority in society, and thus would have more opportunities to have their sexual motivations activated by power. A greater prevalence of men in power would be consistent with their relatively greater desire for power and status—a sex difference that is seen in humans and many other primate species (de Waal, 1982).

## General Discussion

Power profoundly changes the way people view and respond to the social environment. Power can lead to agency, approach, and action, but these effects are not the same for everyone. The current work demonstrates that anxiety blocks some of the effects of power, reducing power's capacity to evoke action-oriented psychological processes. Although many participants in the current studies responded to power with an approach orientation, anxiety virtually eliminated these effects and prevented power from increasing people's risk-seeking (Experiment 1) and sexual cognition (Experiment 2). We observed consistent support for the moderating role of anxiety despite the fact that the two experiments used different manipulations of power and measures of anxiety and were conducted within two very different behavioral contexts.

Whereas some people experience anxiety directed toward a variety of different types of threat, other people's anxiety tends to be focused more narrowly on social situations. Nevertheless, moderating effects of anxiety in the current research were found for measures of general anxiety (Experiment 1) and social anxiety (Experiment 2). This is consistent with the idea that anxiety, as a whole, involves behavioral inhibition (e.g., Gray & McNaughton, 2000) and thus would be expected to downregulate agentic responses to power. Nevertheless, we suspect that social anxiety, in particular, would exert especially strong moderating effects because power is an inherently social phenomenon. Future research might profitably examine the extent to which moderating

effects of anxiety are systematically larger for social anxiety than other facets of anxiety.

Data from the current research are consistent with the possibility that anxiety buffers against effects of power in part because anxious people do not respond to positions of structural power (i.e., positions that afford resource control within a hierarchy) with a strong psychological sense of control and influence. In the preliminary studies, we saw evidence indicating that anxiety might prevent people from experiencing strong psychological feelings of power. This fits with previous research indicating that anxious people tend to lack a sense of dominance and control, and tend to respond to dominance-related situations with submissiveness (e.g., Maner et al., 2008; Öhman, 1986).

The current studies also provide evidence for a cognitive process that might explain the interactive effects of power and anxiety: perceptions of reward. Whereas participants low in anxiety responded to power with heightened perceptions of positive decision outcomes (Experiment 1) and sexual receptivity (Experiment 2), those high in anxiety did not. In both studies, perceptions of reward statistically mediated the interactive effects of power and anxiety. Findings suggest that, although many people respond to powerful roles by viewing their environment as filled with desirable and promising opportunities for action, anxiety reduces this effect and prevents people from displaying the pattern of optimism characteristic of powerful people. These results are consistent with previous evidence that anxiety can color people's expectancies about the future, reducing their tendency to perceive the environment as rewarding (Harris, Griffin, & Murray, 2008; Koster, Crombez, Verschuere, & De Houwer, 2006; Shepperd, Grace, Cole, & Klein, 2005). Although power generally gives people the green light for action, anxiety interacts with power to evoke a sense of caution rather than a tendency toward unbridled agency.

## Broader Implications of the Current Work

The current work extends the literature on power by identifying a key individual difference that governs the relationship between power and approach. Previous research suggests that individual differences play an important role in how power's effect on approach is expressed. For example, among communally oriented individuals, power enhances socially responsible actions, whereas among exchange-oriented or socially dominant individuals, power can lead to selfish and antisocial behavior (Chen, Lee-Chai, & Bargh, 2001; Maner & Mead, 2010; Mead & Maner, 2012). Our work builds on these findings by demonstrating that, in addition to how power is expressed, individual differences can also shape power's fundamental capacity to elicit approach and agency. More broadly, these findings add to a growing body of research suggesting that power interacts with people's chronic social schemas to affect psychological processes.

The effects of power, and the moderating effects of anxiety, can be understood from an error management perspective (Haselton & Buss, 2000). From the perspective of error management theory, people possess psychological adaptations designed to help them avoid potential errors that are especially costly. Making a risky choice (e.g., gambling a day's wages), for example, could result in a big loss, whereas avoiding the risky choice means losing out on a potentially large payoff. Power may influence the way individuals weigh the potential costs associated with particular decisions or actions. Due to its association with reward and relative lack of vulnerability to punishment, power may cause errors associated with action and agency to be weighed less strongly. Conversely, anxiety may lead people to prioritize avoiding potential threat and, in doing so, may reduce approach-related processes that might increase the possibility of harm. Thus, power and anxiety may lead to adaptively motivated changes in the way people prioritize avoiding particular types of errors.

The current work is also consistent with studies on the hormonal correlates of dominance and anxiety. Individuals high in testosterone tend to display aggression, competitiveness, and dominant behavior (Mazur & Booth, 1998). However, this relationship between testosterone and dominance is blocked by high levels of cortisol (Mehta & Josephs, 2010; Popma et al., 2007). When cortisol levels are high, testosterone is unrelated or even negatively related to aggression, dominance, and risk-taking (Mehta & Josephs, 2010). Cortisol is an endocrinological correlate of anxiety; individuals high in cortisol tend to display hypervigilance to threat (e.g., Gaab et al., 2003; van Honk et al., 1998), and high cortisol levels are typically observed in people with high levels of anxiety (Takahashi et al., 2005). Thus, cortisol—a marker of anxiety—blocks the effects of testosterone. This is conceptually analogous to the moderating effects of anxiety in the current studies. Taken together, this growing body of literature suggests that anxiety, cortisol, and threat reactivity can downregulate processes associated with dominance and agency—processes typically observed among individuals in power.

Moderating effects of anxiety may also fit with previous research on the perceived legitimacy of power. To the extent that anxious people feel that they do not deserve power or that they do not fit well within powerful roles, they might feel that their power is illegitimate. A sense of illegitimacy has been shown to reduce power's effects on agency and approach (Lammers, Galinsky, Gordijn, & Otten, 2008). Thus, anxious individuals' concerns about lacking dominance might lead to a sense of illegitimacy and undermine their tendency to act in an agentic or unconstrained manner. Future research would benefit from testing this possibility directly.

The current work also enhances researchers' understanding of the psychological factors that contribute to sexual harassment and risky behavior. With regard to sexual harassment, the current work suggests that misperceptions of sexual interest may fuel sexual feelings directed toward

subordinates. Thus, power may set the stage for sexual harassment in part because it prompts a misperception of the social environment—Power leads people (at least those low in anxiety) to overperceive subordinates' level of sexual desire. The current research is one of the first to demonstrate this link between biased social perception and sexual attraction within a tightly controlled face-to-face social interaction. Thus, this research has implications for understanding and potentially reducing instances of sexual harassment—a phenomenon with clear negative implications for social and personal well-being.

Similarly, the current findings suggest that power may prompt risk-taking because it shapes people's perceptions of desirable decision outcomes. That is, power leads people to see positive outcomes as particularly likely to occur. Many forms of risk-taking involve potentially perilous consequences, and the current studies provide useful insight into some of the social (power) and psychological (perceptions of reward) factors underlying potentially dangerous forms of behavior. More broadly, evidence from both studies provides important confirmation of the hypothesis that power elicits approach-related processes in part because it heightens people's perceptions of reward (see Keltner et al., 2003). The current studies also provide novel evidence supporting the hypothesis that individual differences in anxiety mitigate this process.

The current studies also have implications for understanding and shaping leadership behavior. Leaders are usually given power so that they can help further group goals. Yet, power can lead people to display overly dominant and corrupt behavior (Georgesens & Harris, 1998; Maner & Mead, 2010). The current findings suggest that evoking in leaders a degree of anxiety may help restrain some of power's negative social effects. Vigilance to potential threats stemming from the negative outcomes of one's behavior might provide a psychological counterweight to the typical pattern of dominance and assertiveness among powerful people.

### *Limitations and Future Directions*

Several limitations of the current studies provide useful opportunities for further research. First, we have tested hypothesized effects of power and anxiety within only two domains (risk-seeking and sexual attraction). Power has been shown to affect a wide range of social phenomena, including leadership, group dynamics, perspective-taking, prosocial behavior, and so on. The hypothesis that anxiety moderates the effects of power would benefit from further testing within these and other domains.

Second, the current studies relied on an individual differences approach, examining moderating patterns associated with dispositional levels of anxiety. Future studies could profitably examine the extent to which experimental manipulations of anxiety moderate effects of power. This would enhance the ability to draw strong causal conclusions about the role anxiety plays.

Third, because we did not include low power conditions in the current study, we cannot rule out the possibility that effects were driven in part by general schemas associated with the concept of power, as opposed to experiencing high power specifically. Studies in the power literature, including those that have included low power conditions, have consistently linked approach and agency to motivations resulting from the experience of high power, as opposed to low power (e.g., Anderson & Berdahl, 2002; Smith & Bargh, 2008; Smith et al., 2008). These findings suggest that approach, action, and agency are the result of experiencing high power, rather than activation of a more general power schema. Nevertheless, further research is needed to more fully delineate the potential role of general cognitive power schemas.

Fourth, although we provided evidence consistent with one account of anxiety's moderating effects, other accounts may be viable, as well. Data from these studies are consistent with the idea that anxiety prevents people from experiencing strong subjective feelings of power. Another possibility, however, is that anxious people do experience a sense of power, but their reactivity to potential threat prevents them from acting on that sense of power. Many of the actions observed among powerful people are associated with potential threats. Risk-taking can result in significant financial, psychological, social, and physical costs. Being sexually forward toward a subordinate can result in reputational damage and organizational conflict. Being reactive to potential threats—as anxious people are—might prevent individuals from responding to feelings of power by behaving in risky ways. This view would be consistent with theories linking anxiety to the behavioral inhibition system, which leads people to avoid potential sources of threat (M. W. Eysenck, 1992; Gray, 1982, 1987). Thus, even if some anxious people in power do experience a strong sense of power and control, their sensitivity to threat might prevent that sense of power from translating into agentic and approach-oriented behavior. Future research would benefit from examining this possibility more directly.

## Conclusion

Power exerts profound effects on an enormous range of psychological and social phenomena. As such, power has become a central topic of interest within the social sciences. The current research advances the literature on power by identifying an individual difference variable—anxiety—that blocks some of the psychological effects of power. Rather than responding to power with heightened approach, highly anxious individuals were unaffected by power. Whereas other individuals reacted to power with increases in risk-seeking and sexual attraction, highly anxious individuals did not. These findings thus provide an important qualification to the literature on power and approach, and provide insight into some of the underlying psychological processes that evoke, and prevent, heightened goal orientation and agency among powerful individuals.

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