

From the Ephemeral to the Enduring: How Approach-Oriented Mindsets Lead to Greater Status

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We propose that the psychological states individuals bring into newly formed groups can produce meaningful differences in status attainment. Three experiments explored whether experimentally created approach-oriented mindsets affected status attainment in groups, both immediately and over time. We predicted that approach-oriented states would lead to greater status attainment by increasing proactive behavior. Furthermore, we hypothesized that these status gains would persist longitudinally, days after the original mindsets had dissipated, due to the self-reinforcing behavioral cycles the approach-oriented states initiated. In Experiment 1, individuals primed with a promotion focus achieved higher status in their newly formed groups, and this was mediated by proactive behavior as rated by themselves and their teammates. Experiment 2 was a longitudinal experiment and revealed that individuals primed with power achieved higher status, both immediately following the prime and when the groups were reassembled 2 days later to work on new tasks. These effects were mediated by independent coders' ratings of proactive behavior during the first few minutes of group interaction. Experiment 3 was another longitudinal experiment and revealed that priming happiness led to greater status as well as greater acquisition of material resources. Importantly, these immediate and longitudinal effects were independent of the effects of a number of stable dispositional traits. Our results establish that approach-oriented psychological states affect status attainment, over and above the more stable characteristics emphasized in prior research, and provide the most direct test yet of the self-reinforcing nature of status hierarchies. These findings depict a dynamic view of status organization in which the same group may organize itself differently depending on members' incoming psychological states.

Keywords: status, hierarchy, power, assertiveness, approach mindsets

A fundamental and long-running question within the social sciences is "who gets ahead in life?" For decades, social scientists have investigated how groups and collectives organize themselves into hierarchies, with a particular focus on determining which individuals tend to achieve high-status positions and the ensuing material and social benefits. To date, research within sociology, psychology, and anthropology has emphasized the role of stable individual characteristics such as demographics, personality, expertise, appearance, and size in determining status (Anderson, John, Keltner, & Kring, 2001; Berger, Rosenholtz, & Zelditch, 1980; Mazur, 1973). In particular, work in the status characteristics literature depicts the status organization process as systematic and predictable: Groups' status hierarchies are largely predetermined, prior to group interaction, by group members' relative levels on a number of key characteristics (e.g., Berger et al., 1980; Berger,

Cohen, & Zelditch, 1972). As a result, certain individuals reliably achieve higher status than others.

In contrast, we seek to introduce a level of dynamism into the status organization process. Drawing on research from a number of literatures, we suggest that status hierarchies may be affected by temporary variations in individual mindsets and psychological states, in addition to stable characteristics. Given the power of first impressions (Merton, 1948), as well as the potentially reinforcing nature of behavior in group settings (Magee & Galinsky, 2008), we argue that individuals' thoughts and feelings when they first enter a group will help determine their long-term status within the group in addition to their stable characteristics. In doing so, we shine the spotlight back on the behavioral determinants of status, particularly behavior during groups' very first interactions together (Berger & Connor, 1969; Berger, Conner, & McKeown, 1969), and paint a picture of status as dynamically determined and path dependent. In our model, the same group could potentially sort itself into different status hierarchies, depending on the mindsets its members bring to its first meeting.

We present a first test of these ideas by examining the status consequences of approach-oriented psychological states at a group's inception. Specifically, we propose that individuals experiencing approach-oriented mindsets entering a group's initial meeting will achieve higher status within the group, due to the proactive nature of these mindsets. This initial advantage in status will then set off a behavioral cycle that reinforces it, resulting in

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status gains that endure even after the original mindsets have dissipated. We tested these ideas across three group experiments, two of which were longitudinal, to examine the status consequences of three approach-oriented psychological states: promotion-oriented regulatory focus, feelings of power, and happiness.

The current research makes important theoretical contributions to a number of research domains, including the status characteristics and status attainment literatures, the priming literature, and the power, regulatory focus and positive mood literatures. In addition, we make an important empirical contribution by presenting the first experiments that bring together three key features that have not been combined before: (a) experimental manipulations that affect status independent of any observable characteristics or task-related abilities; (b) measurement of status emergence in subsequent live, unconstrained, group interaction; and (c) examination of status rankings over multiple time periods and group tasks. In doing so, our methodology provides for the most extensive test yet of the idea the hierarchy is reinforcing.

The Formation of Status Hierarchies

Researchers have long been interested in how groups organize themselves. Groups of humans, as well as nonhuman primates, have been found to consistently organize into status hierarchies, such that some members are higher in status and others lower (Bales, Strodbeck, Mills, & Roseborough, 1951; Berger et al., 1972; De Waal, 1982; Magee & Galinsky, 2008; Mazur, 1973). We define *status* as the level of respect, prominence, and influence that an individual has within a group (Anderson et al., 2001; Goldhamer & Shils, 1939; Magee & Galinsky, 2008). Being high in status is associated with increased physical health, access to resources, social support, self-esteem, and reproductive success, making it perhaps the primary measure of individual success (Barkow, 1975; Ellis, 1994; Leary, Cottrell, & Phillips, 2001; Marmot, 2004).

Among nonhuman primates, status hierarchies are generally organized by physical strength and size, with larger and stronger individuals dominating those smaller and weaker (e.g., De Waal, 1982). Among humans, the process is thought to be more cooperative. When a group forms, its members are thought to evaluate one another in terms of how much value each provides to the group, and status is allocated accordingly (Berger et al., 1972, 1980; Ridgeway, 1987). Thus, individuals perceived as being most vital to group success are given the highest status. In support of this, substantial evidence shows that competence and commitment, two personal characteristics highly valuable to groups, predict higher status attainment (Driskell & Mullen, 1990; Hardy & Van Vugt, 2006; Mann, 1959; Ridgeway, 1987). This value-based model of status sorting is generally thought to benefit groups because it both places more qualified members in charge and incentivizes contributions to the group (Blau, 1964; Magee & Galinsky, 2008; Willer, 2009), although it can of course also lead to negative individual outcomes for those low in status (Barkow, 1975; Ellis, 1994; Marmot, 2004).

An important part of this story is that perceptions of value, rather than value itself, determine status. As a result, groups do not necessarily always place their most valuable or competent members in charge; rather, the ones that *appear* to be the most valuable or competent achieve higher rank. In general, perceptions of value

are thought to be driven by two main observable factors: attributes and behavior. First, work in status characteristics theory has amassed a large body of evidence showing that observable attributes, such as demographics, formal rank, and functional background, shape expectations of value and, consequently, levels of status and influence (Berger et al., 1972, 1980). For example, an early study observed that students ostensibly from Stanford enjoyed greater influence in a simulated dyadic decision-making task than students from a nearby high school (Moore, 1968). Interestingly, the evidence suggests that diffuse characteristics that may be unrelated to task competence, such as gender, race, or age, are often used as status characteristics due to stereotypic associations with competence (Berger et al., 1980).

Second, a smaller body of work has examined how behavior relates to status attainment. Some of the very first studies of hierarchy observed reliable differences in the frequency of certain behaviors—primarily the initiation and reception of snippets of conversation—between individuals rated high versus low in influence and leadership in groups (Heinicke & Bales, 1953; see also Shelly, 1997). It is worth noting, however, that these data are correlational, and thus it is unclear whether high status leads to greater speaking opportunities or whether speaking up leads to status attainment. More recently studies examining individual differences in dominance and overconfidence have found that these traits benefit status by engendering proactive and assertive behavior, such as speaking up and volunteering suggestions to the group (Anderson, Brion, Moore, & Kennedy, 2012; Anderson & Kilduff, 2009). Although this work has not definitively shown that such behavior causes increased status—because behavior was confounded with either dispositional traits or perceived task-related expertise—it certainly suggests that behavior, particularly of a proactive nature, can help signal one's competence to the group. This work is also consistent with a recent evolutionarily grounded theory of leadership, which posits a game-theoretic equilibrium between leadership and followership that produces a first-mover advantage to those who take the initiative (Van Vugt, 2006).

Much as observable characteristics are not always indicative of ability, assessing value from behavior is also an imprecise process. Although more competent and valuable individuals do tend to exhibit more competence cues on average, other factors can also lead to competent-seeming behavior. Most notably, personality traits such as extraversion, dominance, and overconfidence have little or no correlation with task competence, but have been consistently linked to status attainment (Anderson et al., 2012, 2001; Anderson & Kilduff, 2009; Lord, De Vader, & Alliger, 1986). For example, one study of groups working on math problems found that individuals higher in trait dominance were perceived as more quantitatively skilled by their teammates and, as a result, achieved higher status (Anderson & Kilduff, 2009). This occurred despite the fact that they did not have higher quantitative aptitude, nor did they offer more accurate answers during the group task; they achieved higher status simply because they were more likely to speak up and take the initiative.

The Role of Psychological States in Status Attainment

As reviewed above, research on status emergence has identified a range of stable individual characteristics that predict status in groups. These include demographic characteristics, education or

functional background, formal rank, experience and expertise, personality, and even physical attractiveness (Anderson et al., 2001; Anderson, Spataro, & Flynn, 2008; Berger et al., 1972, 1980; Lord et al., 1986; Lord, Phillips, & Rush, 1980). However, given the evidence suggesting that group members also look to each other's behavior to help determine value and status, we argue that the mindsets group members bring into a group may also influence their status, in addition to their more stable characteristics. For example, individuals who happen to be feeling more energetic or confident at a particular point in time might show greater initiative during group discussions, thus suggesting greater competence to their teammates and achieving higher status.

That said, because psychological states tend to be short-lived, they may be unlikely to influence individuals' long-term standing within their groups. Although a wide range of research has shown that temporary and incidental psychological states influence behavior (e.g., Bargh, Chen, & Burrows, 1996; Lerner, Small, & Loewenstein, 2004; Tiedens & Linton, 2001), these effects are generally fleeting. For example, the effects of a positive mood manipulation on helping behavior disappear after 20 min (Isen, Clark, & Schwartz, 1976). Similarly, research on the longevity of priming manipulations, which are used to experimentally activate particular states or constructs in individuals, finds that their effects dissipate quite quickly, and are typically absent with 1 hr's time (Smith, Stewart, & Buttram, 1992; Srull & Wyer, 1979, 1980). Furthermore, when compared with chronic constructs, primed constructs have been found to exert a greater influence on behavior for only a few minutes after the priming manipulation (Bargh, Lombardi, & Higgins, 1988), at which point chronic constructs become more powerful. This research, therefore, suggests that any status consequences associated with an activated psychological state are apt to be short-lived, after which point, individuals' stable characteristics take over.

However, there are reasons to believe that the setting of a newly formed group, which has not been examined by priming researchers, may be unique in ways that can perpetuate and maintain the effects of temporary states, particularly with respect to status. In other words, the conditions and psychological states under which a group first meets may be especially important in determining its enduring status hierarchy. First, it is during initial interactions that groups tend to develop a shared understanding of members' roles, which then guides behavior going forward (Sherif, 1936; Weber & Murnighan, 2008). Thus, initial patterns of behavior tend to become crystallized and then repeated. Indeed, research suggests that status hierarchies tend to form quickly (Bales et al., 1951; Kalma, 1991), and once formed, are generally stable—individuals high in status at one time point are typically also high in status at later times (Anderson et al., 2001; Bales et al., 1951; Henicke & Bales, 1953). Thus, once a person achieves an initial status advantage, group norms and tendencies toward consistency may help them to maintain that position going forward.

Second, when a group first assembles, its members are forming first impressions of each other. A number of interrelated literatures speak to the importance of first impressions and their potential to set off reinforcing cycles of interaction that confirm and strengthen these impressions over the long term. *Self-fulfilling prophecies* refer to situations in which our initial expectations of others, or even their own self-expectations,

shape our behavior toward them, which in turn leads them to behave in ways consistent with these initial expectations (Merton, 1948). Thus, individuals whose initial behavior suggests competence or value may subsequently be treated in ways that actually lead them to perform at a higher level, as has been observed in the case of students and teachers in the famous Pygmalion Effect (Rosenthal & Jacobson, 1992). Initial behavior will certainly be related to an individual's stable dispositions, but it is also apt to be affected by any psychological state the individual is experiencing at the time of a group's inception.

Third, hierarchy itself is thought to be self-reinforcing (Magee & Galinsky, 2008). High-status members are given more opportunities to contribute to group activity and, as result, have greater chances to signal their value to the group (Henicke & Bales, 1953). High-status individuals are also expected to perform better than low-status members even on new tasks unrelated to their source of status (Harvey, 1953; Sherif et al., 1955). Furthermore, the contributions of high-status members are seen as more valuable than those of lower status members, even when they are objectively identical (Humphrey, 1985; Sande, Ellard, & Ross, 1986; see also Olson, Roese, & Zanna, 1996, for a review of how expectations more generally guide the interpretation of information). Lastly, high-ranking positions may offer individuals opportunities to protect their advantaged positions—for example, by controlling the flow of valuable information within the group (Maner & Mead, 2010).

Taken together, these various processes suggest that group members' initial behavior will be particularly important in determining groups' status hierarchies. Individuals who achieve higher status early in a group's lifetime may be able to maintain and reinforce their advantaged positions going forward. Consequently, the psychological states that individuals bring to initial group interactions are likely to carry status consequences that endure beyond the psychological states themselves.

Approach-Oriented Mindsets and Status Attainment

As a first test of our idea that the psychological states individuals carry into a group can affect the group's enduring status hierarchy, we examine the status consequences of approach-oriented mindsets. Scholars have argued that two general motivation systems underlie much of our behavior: the behavioral approach and behavioral inhibition systems (BAS and BIS; Carver & White, 1994). The BAS regulates behavior related to goals and rewards, such as sex, food, or achievement. By contrast, the BIS regulates behavior related to avoiding threats or aversive outcomes, serving as a kind of warning system. Many psychological states can be categorized as either approach oriented or inhibition oriented.

We focus on approach-oriented states because of their tendency to promote proactive, goal-oriented behavior (De Dreu, Baas, & Nijstad, 2008; Galinsky, Gruenfeld, & Magee, 2003; Keltner, Gruenfeld, & Anderson, 2003; Kunstman & Maner, 2011; Liberman, Molden, Idson, & Higgins, 2001; Magee, Galinsky, & Gruenfeld, 2007; Russell & Barrett, 1999; Yan & Dillard, 2010). The findings that extraversion (Anderson et al., 2012, 2001) and personality dominance (Anderson & Kilduff, 2009) both predict status attainment in newly formed groups suggests the importance of proactive behavior in driving the status attainment process.

In the current research, we examined the status consequences of experiencing a promotion focus, feelings of power, and happiness. We selected these three states for our investigation after a careful review of the literature. There is substantial evidence that each activates an approach orientation. However, at the same time, they are distinct states that cover a broad spectrum of psychological experiences. Thus, examining these three states provides a strong test of our general theory linking the experience of an approach-oriented state at group inception to status attainment. Furthermore, by examining psychological states—promotion focus and positive mood—that are distal to status, we strove to increase the generalizability and novelty of our work.

We propose that individuals experiencing these approach-oriented states when entering a group—for example, an individual who enters a meeting feeling happy due to some unrelated good news—will be more proactive during initial group interactions. Past research has linked approach-oriented states, including each of the three we examine, to proactive behavior. For example, people primed with power are more likely to take action to reduce their discomfort, and to make the first offer in a negotiation or debate (Galinsky et al., 2003; Magee et al., 2007). Furthermore, both happiness (De Dreu et al., 2008) and promotion focus (Lieberman et al., 2001) have been associated with increased suggestions in brainstorming and guessing tasks.

In turn, this increased proactive behavior should lead individuals experiencing approach-oriented states to achieve higher status (Anderson & Kilduff, 2009; Shelly, 1997). Furthermore, due to the self-reinforcing nature of hierarchy and first impressions, we predict that this status advantage will endure even after the approach-oriented states have dissipated. Thus, our overall prediction is that individuals experiencing approach mindsets when entering a new group will achieve higher status, and maintain this status over time. Furthermore, we expect these benefits of initial approach-oriented states to occur independent of stable dispositions, although we do examine the possibility that they may interact, such that people high or low on a particular stable disposition (e.g., extraversion, personality dominance) are more affected by the approach-oriented prime.

There does exist some indirect support for a link between approach-oriented states and status. Specifically, some researchers have examined how individuals' emotional expressions can affect "status conferrals," or the extent to which observers perceive them as being high in, or deserving of, status (e.g., Tiedens, 2001). For instance, individuals who were observed reacting to adversity with anger as opposed to sadness were perceived to be deserving of higher status (Tiedens, 2001). This research is part of a broader literature examining the cues, such as dress, speaking time, eye contact, and posture, that people use to ascertain the hierarchical rank of others (e.g., Dovidio & Ellyson, 1982; Mast & Hall, 2004).

It is worth noting that this past work is critically different from our own. This research has focused on independent observers' perceptions of status from noninteractive stimuli (e.g., photographs, videotape), rather than investigating status as an emergent property of social interaction within face-to-face groups. It is one thing to report that someone appears to be high in status on the basis of a photograph or video; it is another to give status, respect, and influence to that person when interacting with him or her in a face-to-face group. An observer who sees an individual express

anger, dominate discussion, or exhibit high levels of direct eye contact while speaking may indeed infer that this individual is high in status, because these behaviors are more normative for high-status rather than low-status individuals. This does not mean, however, that individuals who exhibit these behaviors in a newly interacting group of peers will garner increased status. This existing work on status conferrals has shed light on the cues individuals use to discern who has status in existing hierarchies and groups, but we examine a fundamentally different question—whether approach-oriented mindsets affect status *attainment* over time in interacting groups without preexisting hierarchies.

Overview of Experiments

We conducted three experiments involving face-to-face groups to test whether individuals experiencing approach-oriented states upon group formation would achieve increased status. In Experiment 1, we examined the effects of priming a promotion focus on status attainment and assessed self- and peer ratings of proactive behavior as a mediating mechanism. In Experiment 2, we examined the effects of priming power on status attainment, and examined proactive behavior during very initial group interaction as a mediator, as assessed by independent video coders. Furthermore, Experiment 2 was a longitudinal experiment involving two rounds of group interaction, 2 days apart, which allowed us to assess whether the effects of initial approach-oriented mindsets would endure beyond the first group meeting, even after these primed states had expired. In Experiment 3, we examined primed happiness in another longitudinal experiment with two rounds of group interaction spaced 2 days apart. In addition to measuring status, we also examined group members' acquisition of tangible resources.

We also examined in Experiments 2 and 3 the status consequences of stable dispositional traits, including extraversion and personality dominance. Measuring dispositions allowed us to test whether approach-oriented states operated independently of these more stable characteristics or whether they interacted with stable traits in predicting status. For example, it could be that approach-oriented states only benefit those who are already predisposed toward proactive behavior (e.g., those high in dominance personality or extraversion). Or, perhaps those who tend to lack proactivity (e.g., introverts) benefit most from the boost provided by approach-oriented states.

Theoretical and Empirical Contributions

The current research makes a number of important theoretical and empirical contributions. First, to our knowledge, these are the first studies to ever manipulate psychological states unrelated to group activity and examine subsequent status attainment in live, interacting groups. In contrast to previous research, which has emphasized the role of stable individual characteristics, our theoretical model and findings suggest that hierarchy formation is a dynamic and path-dependent process, sensitive to the psychological states that group members bring to group interaction.

Second, our experiments provide the most direct and comprehensive test of the reinforcing nature of status hierarchies to date. Much of the empirical data cited to support the idea that hierarchy is reinforcing consists simply of observed stability in hierarchy

(e.g., Anderson et al., 2001; Bales et al., 1951; Henicke & Bales, 1953). However, it is entirely possible that these results were driven by the stable nature of observable status characteristics, rather than any significance of early behavior or the reinforcing cycles it initiates. A person with greater formal rank, social class, educational background, or physical attractiveness at a group's inception holds those same characteristics later in the group's life; thus, the status advantages associated with those characteristics could exist at both time periods independent of any reinforcing effects of hierarchy. A few studies have shown that individuals with higher formal rank are expected to perform better (e.g., Sande et al., 1986), and there is evidence that performance expectations can be reinforced, mainly in the domain of teacher–student interactions (e.g., Rosenthal & Jacobson, 1992). However, the extent to which hierarchy is reinforcing in face-to-face groups of *peers*, whereby those who gain an initial edge in status tend to maintain it independent of any stable characteristics or differences in formal rank, has not been shown.

To achieve this standard, three elements of the research design are necessary. First, different levels of status have to be experimentally determined independent of stable characteristics or task-related expertise. We accomplish this criterion by manipulating the mindsets that group members bring to their initial interaction. Second, the groups must have free, live interaction. In the current research, we have groups work on tasks with no constraints on their behavior. Third, status must be measured longitudinally. In the current research, we had groups return 2 days after their initial interaction, and had them engage in a set of new group tasks. By showing that initial status advantages driven by fleeting factors and divorced from stable status characteristics can persist over time in freely interacting groups, we contribute novel empirical evidence for the often repeated but largely untested claim that hierarchies are self-reinforcing.

Third, hand-in-hand with the reinforcing nature of hierarchy, our experiments demonstrate that the initial interactions of newly formed groups are particularly important to determining groups' status hierarchies. In identifying initial behavior as an important determinant of subsequent status dynamics, we provide support for a view of status as path dependent—sensitive, for instance, to the timing and order in which competence cues are exhibited—which has a range of theoretical implications that extend beyond our specific research question.

Fourth, we contribute to knowledge of the predictors of status. This is true of both our broad focus on approach-oriented psychological states as well as the specific states of power, happiness, and promotion focus. Happiness and promotion focus are constructs that have received virtually no discussion in the literature on status attainment, even as stable dispositions. Thus, we identify two new predictors of status. Furthermore, although power has been conceptually linked to status (e.g., Magee & Galinsky, 2008), we believe that our work is the first to directly show that feelings of power can lead to greater status attainment. It is also worth noting that although power, happiness, and promotion focus have each been independently talked about as approach-oriented states, the current research brings them under a single roof in examining whether they have similar consequences within the same paradigm.

Finally, in addition to contributing to the literatures on status organization and attainment, we think our work makes signif-

icant contributions to the literature on priming. Few studies have examined whether and how the effects of primed constructs can persist over time. Those that have explored this have focused on how priming affects individuals' judgments of ambiguous behavior described in vignettes or scenarios (Bargh et al., 1988; Smith et al., 1992; Srull & Wyer, 1979, 1980). This work reveals that priming effects dissipate quickly unless repeatedly activated and that chronic tendencies come to have greater influence over judgments within just a few minutes. Our work extends this by examining the longevity of priming effects on behavior in face-to-face interactions. Andrade and Ariely (2009) recently found that primed emotions can affect decisions across multiple economic games, due to pressures toward behavioral consistency; however, the behaviors they examined all took place within the same 1-hr experimental session. We build on this work by showing how the consequences of priming can endure over multiple days, not within the mind of a single individual, but through the reinforcing nature of group interaction.

Experiment 1: Promotion Regulatory Focus and Status Attainment

In Experiment 1, we conducted a first test of our hypothesis that approach-oriented psychological states can facilitate status attainment. Specifically, we examined the status consequences of a promotion-focused goal orientation, a fundamentally approach-oriented state. Regulatory focus theory proposes that individuals can adopt one of two general goal orientations: promotion or prevention (Higgins, 1997, 1998). A promotion focus orients individuals toward growth, advancement, and aspirations, and places them in a state of eagerness to attain desired goals and outcomes. By contrast, individuals with a prevention focus are more concerned with security, safety, and responsibilities, and thus tend to behave in a more careful and cautious manner.

There is clear evidence that a promotion regulatory focus is an approach-oriented state and that promotion-focused individuals tend to exhibit more proactive behavior. Crowe and Higgins (1997) stated that promotion focus entails “a predilection for approach means to obtain desired end-states” (p. 118), and described promotion-focused individuals as those whose “strategic inclination is to make progress by approaching matches to the desired end-state” (p. 120). Empirically, promotion-focused individuals make more aggressive first offers in negotiations (Galinsky, Leonardelli, Okhuysen, & Mussweiler, 2005), generate more hypotheses and suggestions in a guessing task as a way of maximizing their chances of a successful “hit” (Lieberman et al., 2001), make more errors of commission (Crowe & Higgins, 1997; Shteynberg & Galinsky, 2011), and are more willing to take risks (Higgins, 2002; for a brief review, see Gino & Margolis, 2011), relative to prevention-focused individuals. Thus, we predicted that promotion-focused individuals would be more likely to exhibit the kind of proactive and assertive behavior that leads to status gains in group contexts, and, as a result, would achieve higher status when entering a newly formed group.

Method

Participants. Fifty-seven undergraduates (71.9% female; average age = 19.8 years, $SD = 2.61$) participated in the study, in 19 groups of three.^{1,2}

Procedure. Participants arrived at the lab and completed basic demographic information, after which they were randomly assigned to one of three conditions. In the *promotion focus* condition, participants were asked to write at least two paragraphs describing the aspirations and ambitions that they hoped to achieve in life. In the *prevention focus* condition, participants were asked to describe the duties and obligations that they had to fulfill in their life. Similar writing tasks have been previously used to prime promotion versus prevention focus (e.g., Galinsky et al., 2005; Gino & Margolis, 2011). Lastly, in the *neutral* condition, participants were asked to describe their commute to campus that day.

Participants were then assembled into same-sex groups of three, with each group containing one participant from each condition. Groups were led to separate rooms, where they worked together on a “Startup Company” task. Specifically, they were asked to rank order a set of 13 items (e.g., employees, company name, industry contacts) in terms of their importance to launching a startup company, within a period of 20 min. Similar ranking tasks have previously been used to study the formation of status hierarchies (e.g., Shelly & Webster, 1997)—they are engaging, encourage debate, and serve to simulate real-world situations in which group decisions must be made. After groups had finished working on the task, participants were reassembled in the main conference room and completed a posttask survey, from which our measures of status and proactive behavior were drawn.

Measure of status. We measured status by having participants rate to the extent to which they “respected and admired” each of their teammates and the extent to which each of their teammates “had influence over task decisions” on a scale ranging from 1 (*not at all*) to 7 (*very much*). Peer averages on these measures were highly intercorrelated ($\alpha = .91$) and thus combined into an aggregate measure of status.

Ratings of proactive behavior. To assess individuals’ level of proactive behavior, we asked them to report the extent to which they agreed with two statements: “I tried to take the initiative within the group” and “I tried to speak up and assert myself” on a scale ranging from 1 (*not at all*) to 7 (*very much*) ($\alpha = .85$). We also asked each person to rate their teammates, on two similar items: “acted assertively” and “took the initiative in the discussion” ($\alpha = .91$). Self- and peer ratings of proactive behavior were correlated with each other ($\alpha = .74$ across all four items) and were thus standardized and averaged into an aggregate measure of proactive behavior.

Results

Given the nested nature of our data—individuals within groups—we used hierarchical linear modeling (HLM) to conduct our analyses. HLM is well suited for such data sets because it accounts for the interdependence of individuals within the same group (Hofmann 1997). To implement these analyses, we used the software package HLM 6.08 (Raudenbush, Bryk, & Congdon 2008).

Status achieved. As predicted and displayed in Figure 1, participants in the promotion focus condition achieved higher

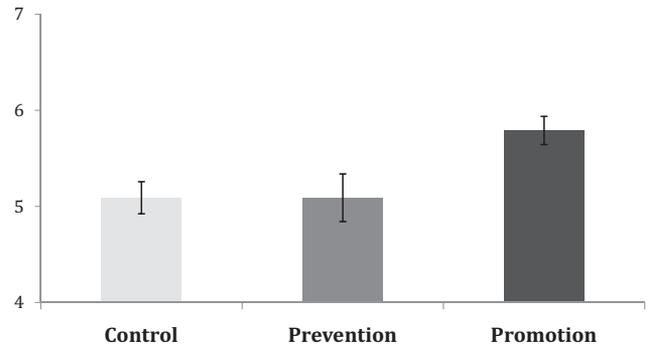


Figure 1. Status by condition in Experiment 1. Error bars represent ± 1 SEM.

status in their groups ($M = 5.79$, $SD = .64$) than participants in the prevention ($M = 5.09$, $SD = 1.08$) and neutral ($M = 5.09$, $SD = .73$) conditions ($\gamma_{10} = .71$, $t(55) = 2.99$, $p = .005$ (promotion focus = 1; prevention focus and neutral = 0).

Proactive behavior. Participants primed with a promotion focus were rated as behaving more proactively ($M = .36$, $SD = .74$) during group interaction than participants in the prevention ($M = -.32$, $SD = 1.04$) and neutral conditions ($M = -.25$, $SD = .76$) ($\gamma_{10} = .64$, $t(55) = 2.66$, $p = .01$).

Mediation by proactive behavior. We next tested whether proactive behavior mediated the effect of primed promotion focus on status. In a simultaneous HLM analysis, proactive behavior was significantly associated with higher status ($\gamma_{20} = .68$, $t(54) = 7.11$, $p < .001$). The direct effect of promotion focus was no longer significant ($\gamma_{10} = .27$, $t(54) = 1.47$, $p = .15$). A Sobel test indicated that the indirect effect of promotion focus on status via assertive behavior was significant ($z = 2.49$, $p = .01$). This was confirmed using a bootstrapping-based mediation test with ordinary least squares regression analyses in place of HLM (Preacher & Hayes, 2004): a 99% confidence interval for the indirect effect did not include zero [.017, .584].

Experiment 1 provided the first evidence that variation in group members’ psychological states at a group’s inception can affect the group’s status hierarchy. Individuals primed with an approach-oriented state, promotion focus, attained significantly higher status than individuals in neutral or prevention-focused mindsets. Furthermore, consistent with our theoretical model, we found evidence suggesting that the achievement of higher status by promotion-focused individuals was mediated by proactive behavior.

¹ Preliminary analyses revealed that the sex of the groups did not interact with our manipulations on any dependent measure, so sex was not included in any of the presented analyses.

² Across all three studies, we used the same a priori exclusion criteria. In each study, we measured whether participants (a) had completed any of the group tasks before or (b) believed that the recall prime was designed to influence their behavior in the group. Across the studies, seven participants (2.2%) indicated that they had done at least one of the group tasks, and 22 participants (6.8%) indicated some level of suspicion that the recall prime was intended to affect their behavior during the group task. The participants listed and the analyses presented exclude groups that contained these participants.

Experiment 2: From Primed Power to Status Attainment in a Longitudinal Experiment

Experiment 2 extended Experiment 1 in several important ways. First, we examined a different approach-oriented psychological state—the state of feeling powerful. The prevailing theory of power over the past decade depicts it as a fundamentally approach-oriented psychological state (Keltner et al., 2003). Furthermore, a number of empirical studies have documented how feelings of power lead individuals to be approach oriented and to behave proactively (e.g., Anderson & Galinsky, 2006; Galinsky et al., 2003; Magee et al., 2007). For instance, individuals who feel powerful are more likely to move first in a debate and put forth the first offer in a negotiation (Magee et al., 2007). Similarly, feelings of power lead individuals to be more optimistic in their assessments of risk and, as a result, to engage in riskier behavior (Anderson & Galinsky, 2006). Thus, we predicted that individuals feeling powerful when entering a group would achieve higher status within the group.

Second, Experiment 2 was a longitudinal experiment that allowed us to examine the status consequences of initial psychological states over a longer period of time. We wanted to explore whether the status attainment achieved by individuals entering groups in approach-oriented states would endure beyond the group's initial meetings, days after the initial psychological states themselves should have worn off. To test this idea, we reassembled participant groups 48 hr after the initial group task and had them engage in a new set of group tasks.

Third, we measured proactive behavior through the use of independent observers, and based only on the very first few minutes of groups' initial interactions. This objective measure provides a strong test of the role of initial proactive behavior in driving the effects of approach-oriented psychological states.

Fourth, we measured participants' personality along the Big Five dimensions (John & Srivastava, 1999; McCrae & Costa, 1999). This allowed us to assess whether the effects of feeling powerful would operate independent of individuals' more stable dispositions or whether psychological states and stable dispositions might interact in predicting status attainment. In particular, we were interested in the dimension of Extraversion, as this is an established predictor of status (Anderson et al., 2012, 2001) and may engender some of the same approach tendencies as feelings of power (Pickering, Corr, & Gray, 1999). Finally, we varied the tasks that groups worked on so as to increase the generalizability of our findings.

Method

Participants. Seventy-five undergraduates (70.7% female; average age = 19.4 years, $SD = 1.1$) participated in the two-part study, in 25 groups of three. Five groups had one or more group members missing at Time 2 and were thus removed from all analyses, leaving a final sample of 60 individuals across 20 groups (results at Time 1 are unchanged when including these groups).

Time 1. Participants arrived at the lab and completed basic demographic information, after which they were randomly assigned to one of three conditions. In the *high-power* condition, participants were asked to recall and describe an incident in which they had power over another individual or individuals. In the

low-power condition, participants were asked to describe an incident in which someone else had power over them. These manipulations have been shown to successfully prime high and low power (Galinsky et al., 2003). Lastly, in the *neutral* condition, participants were asked to describe a recent trip to a grocery store (Gruenfeld, Inesi, Magee, & Galinsky, 2008; Rucker & Galinsky, 2008).

Participants were then assembled into same-sex groups of three, with each group containing one participant from each condition. Groups were led to separate rooms, where they were videotaped and worked together on an "arctic survival" task for a period of 20 min. This is a ranking task similar to the one used in Experiment 1, except that groups were asked to rank a set of 12 items (e.g., flashlight, butane lighter) in terms of their usefulness to surviving a severe snowstorm. After groups had finished working on the task, participants were reassembled in the main conference room and completed a posttask survey, from which our measure of status was drawn.

Time 2. Two days later, participants returned to the lab and assembled into the same groups. No manipulations of any kind were administered at Time 2, and there was no mention of the Time 1 priming task. Groups were given two new tasks to work on. The first involved generating an idea for an environmental organization, including its cause, name, organizational goals, and strategies—for which groups were given 20 min. The second task involved estimating a series of statistics and figures for 5 min (e.g., "What percentage of Americans use dental floss on a daily basis?"). Participants then reassembled in the main conference room and completed a second posttask survey.

Measures of status. To measure status in the group, on both posttask surveys participants ranked the members of their groups along the following three dimensions (1 = highest, 3 = lowest): the degree to which they "had *status in the group* (i.e., how much respect and admiration they received from others)," "*led the group* (i.e., how much they made decisions, coordinate activities, etc.)," and "had *influence in the group* (i.e., how much they influenced the group's decisions and processes)" (Anderson & Kilduff, 2009). Peer averages on these items were intercorrelated ($\alpha = .83$ at Time 1; $\alpha = .88$ at Time 2) and were thus combined into aggregate measures of status, which were then reverse coded so that higher values indicated higher status.

Video coding of proactive behavior. To assess proactive behavior, we had two independent coders who were blind to hypotheses and conditions watch the first 10 min of every group's Time 1 interactions. Coders rated participants on three items: "acted assertively," "spoke with confidence," and "took initiative in the discussion," ranging from 1 (*Not at all*) to 7 (*Very much*). Across both coders, these items were highly intercorrelated (average $\alpha = .92$) and were thus aggregated into one measure; the coders also exhibited a high level of agreement in terms of which individuals were acting more or less assertively ($\alpha = .85$ for the aggregate measure). In addition, the coders recorded the speaking order (first, second, or third) of participants as a second measure of proactive behavior (there was perfect agreement between coders on this measure). Speaking order was correlated with coders' ratings of proactiveness ($\alpha = .61$), so we standardized and then combined these two measures to create an overall measure of initial proactive behavior.

Big Five personality dimensions. As part of the posttask survey at Time 2, participants completed the Ten Item Personality Inventory (TIPI; Gosling, Rentfrow, & Swann, 2003). The TIPI converges with longer Big Five measures and shows strong test-retest reliability and considerable convergent and discriminant validity (Gosling et al., 2003). All personality items were rated on a scale ranging from 1 (*Does not describe me at all*) to 7 (*Describes me very well*).

Results

Time 1 status. As predicted, participants in the high-power condition achieved higher status at Time 1 ($M = 2.28$, $SD = .59$) than participants in the low-power ($M = 1.77$, $SD = .49$) and neutral ($M = 1.72$, $SD = .45$) conditions ($\gamma_{10} = .54$), $t(58) = 3.87$, $p < .001$ (high-power = 1; low-power and neutral = 0). This is shown in Figure 2.

Time 2 status. Participants in the high-power condition also ranked higher in status at Time 2 ($M = 2.16$, $SD = .42$) than participants in the low-power ($M = 1.77$, $SD = .54$) and neutral conditions ($M = 1.98$, $SD = .48$) ($\gamma_{10} = .28$), $t(58) = 2.13$, $p = .04$, as shown in Figure 3.

Proactive behavior. Participants primed with high power were rated by the independent coders as behaving more proactively during initial group interaction ($M = 5.58$, $SD = 0.84$) than participants in the low-power ($M = 4.52$, $SD = 1.53$) and neutral ($M = 5.09$, $SD = 1.18$) conditions ($\gamma_{10} = .78$), $t(58) = 2.32$, $p = .02$. High-power participants also spoke earlier (average speaking position = 1.55, $SD = .69$) than participants in the low-power ($M = 2.30$, $SD = .80$) and neutral conditions ($M = 2.15$, $SD = .81$) ($\gamma_{10} = .68$), $t(58) = 3.22$, $p = .002$.

Mediation by proactive behavior. We next tested whether initial proactive behavior mediated the effect of priming power on status. In a simultaneous HLM analysis, early proactive behavior at Time 1 was significantly associated with higher Time 1 status ($\gamma_{10} = .33$), $t(57) = 4.52$, $p < .001$. The direct effect of priming power, although still significant, was substantially reduced ($\gamma_{10} = .30$), $t(57) = 2.28$, $p = .03$. A Sobel test indicated that the indirect effect of power on Time 1 status via proactive behavior was significant ($z = 2.69$, $p = .01$).³ This mediation result was confirmed in analyses using bootstrapping procedures with ordinary least squares regression analyses in place of HLM: 99% confidence intervals for the indirect effect did not include zero at [.050, .529].

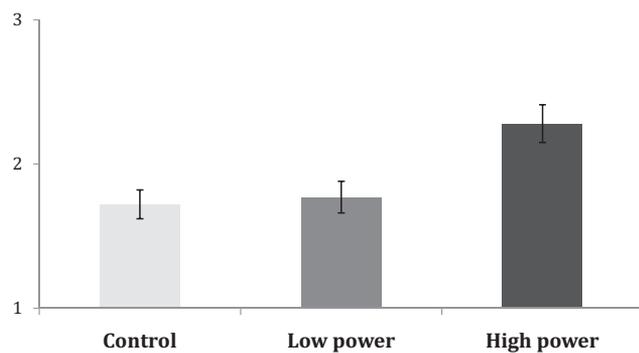


Figure 2. Time 1 status by condition in Experiment 2. Error bars represent ± 1 SEM.

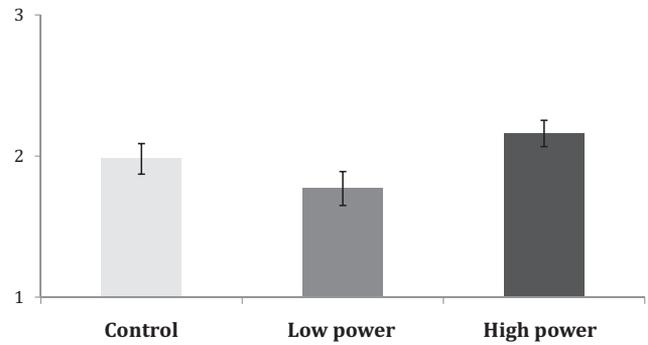


Figure 3. Time 2 status by condition in Experiment 2. Error bars represent ± 1 SEM.

confidence intervals for the indirect effect did not include zero at [.050, .529].

Similarly, early proactive behavior at Time 1 significantly predicted higher Time 2 status ($\gamma_{10} = .25$), $t(57) = 3.32$, $p = .002$; however, the direct effect of priming power was no longer significant ($\gamma_{10} = .10$), $t(57) = 0.77$, $p = .44$. A Sobel test indicated that the indirect effect was significant ($z = 2.46$, $p = .01$); this mediation is shown in Figure 4. This mediation result was also confirmed in analyses using bootstrapping procedures with ordinary least squares regression analyses in place of HLM: 99% confidence intervals for the indirect effect did not include zero [.004, .255]. Thus, proactive behavior during the first 10 min of Time 1 group interaction significantly mediated the effect of Time 1 power priming on Time 2 status.

Stable dispositions. We explored whether the effects of the power prime on status existed independent of participants' stable personality traits or whether primed power interacted with personality. The only dimension of the Big Five found to predict status attainment was Extraversion. In a simultaneous HLM model including the interaction term, Time 1 status was predicted by both the power prime ($\gamma_{10} = .50$), $t(56) = 3.78$, $p < .001$, and Extraversion ($\gamma_{10} = .17$), $t(56) = 2.69$, $p = .011$, but the interaction was nonsignificant ($\gamma_{10} = -.08$), $t(56) = 1.29$, $p = .20$. At Time 2, both power ($\gamma_{10} = .26$), $t(56) = 2.18$, $p = .033$, and Extraversion ($\gamma_{10} = .14$), $t(56) = 2.38$, $p = .021$, predicted status; interestingly, the interaction between the two was negative and significant ($\gamma_{10} = -.17$), $t(56) = 4.00$, $p < .001$. The negative interaction term demonstrates that power mindset manipulation had a stronger effect for those who were less extraverted. Thus, it appeared that the power prime gave a boost to those who were naturally less proactive.

We also conducted a similar model on proactive behavior. This regression model found that both primed power ($\gamma_{10} = .62$), $t(56) = 3.28$, $p = .002$, and Extraversion ($\gamma_{10} = .36$), $t(56) = 3.92$, $p < .001$, significantly predicted the independent coders' assessment of proactive behavior. The interaction between the power manipulation and extraversion was not significant ($\gamma_{10} = -.12$), $t(56) = 1.28$, $p = .21$.

³ We also ran all mediational analyses using a measure of assertiveness that did not include speaking order, and achieved the same results.

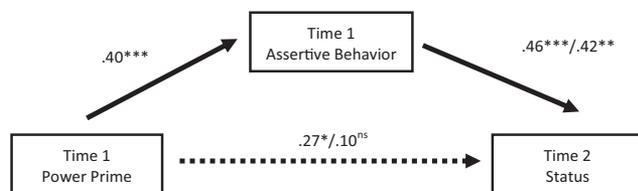


Figure 4. Mediation of the effect of priming power on Time 2 status by Time 1 early assertive behavior in Experiment 2. Numbers represent standardized regression coefficients; numbers to the right of the slash marks represent simultaneous standardized regression coefficients. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Discussion

Experiment 2 provided additional evidence that approach-oriented psychological states can benefit individuals' status attainment within newly formed groups. Individuals randomly primed to feel powerful achieved higher status in their groups, both immediately as well as 2 days later. This supports our thesis that the psychological states group members bring with them to a group can influence the group's status hierarchy and that these effects can endure beyond the lifetime of the psychological states themselves. Furthermore, these increases in status were driven by increased proactive behavior during the very first few minutes of group interaction, supporting the idea that psychological states affect status via the initial behaviors they elicit and the reinforcing cycles that ensue.

We also found that the status effects of a high-power mindset existed even when controlling for stable personality traits. Interestingly, we observed a negative interaction between Extraversion and primed power in predicted Time 2 status, indicating that individuals low in Extraversion benefited more from being primed with power. We hesitate to draw strong conclusions from this one finding, particularly given that these effects only occurred at Time 2. However, they do preliminarily suggest that individuals already dispositionally high in approach-oriented tendencies may benefit less from the experience of temporary approach-oriented psychological states. We sought to replicate this finding in the next experiment to test its robustness.

Experiment 3: Happiness and Status Attainment in a Longitudinal Experiment

Experiment 3 was another longitudinal experiment that sought to extend Experiments 1 and 2 in three main ways. First, we examined a third approach-oriented psychological state—happiness—to continue to test the generalizability of our theory. Research has found that positive affect is related to greater activation of the BAS (Heubeck, Wilkinson, & Cologon, 1998; Yan & Dillard, 2010), that individuals in a happy mood put forth more suggestions in brainstorming tasks (De Dreu et al., 2008), and that employees who experience positive affect report increased proactive behavior at work (Bindl, Parker, Totterdell, & Hagger-Johnson, 2012). Thus, we expected individuals entering groups in a happy mood to achieve increased status. Heponiemi, Keltikangas-Jarvinen, and Puttonen (2003) concluded that "people with a disposition to high positive affectivity (PA) are shown to

actively approach life with energy, enthusiasm, cheerfulness, and confidence" (p. 943).

Second, we continued our investigation into whether the effects of approach-oriented mindsets operate over and above stable dispositions and whether they interact with dispositional traits. In addition to assessing individuals' Big Five personality traits, we examined trait dominance, which assesses individuals' tendencies to behave assertively and is a robust predictor of status in groups (Anderson & Kilduff, 2009; Judge, Bono, Ilies, & Gerhardt, 2002), as well as trait positive affect (i.e., the extent to which individuals are generally happy throughout their daily lives).

Third, we sought to examine the effects of approach-oriented states on the acquisition of material resources in addition to social status. Research suggests that individuals care substantially about their standing within groups, even within more temporary groups such as these (e.g., Ridgeway, 1987; Shelly & Troyer, 2001). Indeed, recent studies reveal that individuals' status within laboratory settings affects physiological indicators of stress such as heart rate and blood pressure (Josephs, Sellers, Newman, & Mehta, 2006; Newman, Sellers, & Josephs, 2005). Nonetheless, we decided to measure allocations of a tangible material resource to participants. At Time 2, we had participants allocate financial resources to one another. An added benefit of this tangible resource measure was that it helped mitigate concerns that participants might anchor on their Time 1 status rankings when completing their Time 2 rankings. To further address this potential issue, we also collected different measures of status at Time 1 (rankings) and Time 2 (ratings).

Method

Participants. One hundred fourteen undergraduates (63.2% female; average age = 19.9 years, $SD = 2.2$) participated in the study in 38 groups of three. Two groups had a group member missing at Time 2 and were thus removed from analyses, leaving a final sample of 108 individuals across 36 groups (results at Time 1 are unchanged by including these groups).

Pretask survey. Prior to coming into the lab, participants completed an online survey. Participants completed the same Big Five personality measure as in Experiment 2 and rated their trait dominance with three items from the Revised Interpersonal Adjective Scales (Wiggins, Trapnell, & Phillips, 1988) at the core of trait dominance: dominant, assertive, and forceful, ranging from 1 (*does not describe me at all*) to 7 (*describes me very well*) ($\alpha = .75$). Trait positive emotion was assessed by asking participants to indicate how much they generally felt active, happy, excited, and enthusiastic, ranging from 1 (*not at all*) to 7 (*very much*) ($\alpha = .81$; items drawn from the Positive and Negative Affect Schedule—Expanded Form scale, Watson & Clark, 1994).

Time 1. Upon arriving at the lab, participants were randomly assigned to describe either a time in which they felt excited and happy (*happiness*), a time in which they felt dejected and down (*sadness*), or a recent trip to the grocery store (*neutral*). Similar recall tasks have been previously used to successfully prime emo-

tional states (e.g., Tiedens & Linton, 2001). Same-sex groups⁴ were then formed with one participant from each condition. Groups worked together on the same arctic survival task used in Experiment 2, after which they ranked each other's status.

Time 2. Two days later, the same groups were reassembled and given two new tasks to work on: the statistics estimation task from Experiment 2 and a set of math problems drawn from the Graduate Management Admission Test. No manipulations of any kind were administered at Time 2, and there was no mention of the Time 1 priming task. Upon completing the group tasks, participants completed a posttask survey in which they rated each other's status and decided how much of a financial resource to allocate to themselves and their teammates.

Dependent measures.

Time 1 status. Participants ranked themselves and their teammates using the same items from Experiment 2 ($\alpha = .90$).

Time 2 status. At Time 2, participants rated themselves and their teammates on the same measures of status used in Experiment 1 ($\alpha = .76$).

Time 2 lottery points. Participants were then informed that the experimenters would be conducting a lottery among all participants for the choice of two prizes worth approximately \$200. Participants were informed that each person's chance of winning would be determined by the number of "points" allocated to them by themselves and their teammates. They were then asked to divide up 100 points among the three group members, including themselves, based on how much they thought each person deserved, given his or her contributions to the group. Participants were assured that their allocations would be kept anonymous.

Results

Time 1 status. Results for Time 1 status are displayed in Table 1. Participants in the happiness condition achieved higher status in their groups at Time 1 ($M = 2.13$, $SD = .63$) than participants in the sadness ($M = 1.89$, $SD = .61$) and neutral ($M = 1.79$, $SD = .55$) conditions ($\gamma_{10} = .29$), $t(106) = 2.40$, $p = .02$, as seen in Model 1.

Time 2 status. Results for Time 2 Status are displayed in Table 2. Participants primed with happiness at Time 1 achieved higher status at Time 2 ($M = 4.92$, $SD = .93$) than participants in the sadness ($M = 4.67$, $SD = 1.05$) and neutral ($M = 4.42$, $SD = .93$) conditions ($\gamma_{10} = .37$), $t(106) = 1.90$, $p = .06$, as seen in Model 1.

Time 2 lottery points. Results for Time 2 lottery points are displayed in Table 3. Participants primed with happiness at Time 1 received more lottery points at Time 2 from their teammates ($M = 30.1$, $SD = 11.0$) than participants in the sadness ($M = 24.3$, $SD = 11.5$) and neutral ($M = 23.2$, $SD = 11.0$) conditions ($\gamma_{10} = 6.37$), $t(106) = 2.82$, $p < .01$, as seen in Model 1 (see also Figure 5). The number of points participants awarded to themselves ($M = 48.3$, $SD = 24.7$) did not differ by condition, $F(2, 105) = 0.64$, $p = .53$, demonstrating that these effects were not due to differing levels of selfishness by condition.

Stable dispositions. As in Experiment 2, the only Big Five dimension that predicted status was Extraversion, but this was true only at Time 1. As seen in Model 2 of Table 1, in a simultaneous HLM model, the positive effect of priming happiness on Time 1 status remained significant ($\gamma_{10} = .29$), $t(105) = 2.37$, $p = .02$,

when controlling for Extraversion, which marginally predicted status ($\gamma_{10} = .07$), $t(105) = 1.66$, $p < .10$. Similarly, primed happiness significantly predicted Time 1 status when controlling for trait dominance in Model 3 ($\gamma_{10} = .33$), $t(105) = 2.68$, $p < .01$, when controlling for trait-level positive affect in Model 4 ($\gamma_{10} = .30$), $t(105) = 2.45$, $p < .02$, and when controlling for all three dispositional variables simultaneously, as seen in Model 5 ($\gamma_{10} = .32$), $t(103) = 2.55$, $p < .02$. Furthermore, primed happiness did not significantly interact with any of the dispositional variables, as seen in Models 6–8.

Table 2 displays the results for models of Time 2 status. The effect of primed happiness on Time 2 status attainment was unchanged by the inclusion of stable dispositions: ($\gamma_{10} = .37$), $t(105) = 1.87$, $p = .064$, when controlling for Extraversion ($\gamma_{10} = .36$); $t(105) = 1.83$, $p = .07$, when controlling for dominance ($\gamma_{10} = .41$); $t(105) = 2.06$, $p = .042$, when controlling for trait positive affect; and ($\gamma_{10} = .40$), $t(103) = 1.95$, $p = .053$, when controlling for all three simultaneously. As seen in Models 6–8 of Table 2, the experimental manipulation of emotion did not interact with any of the dispositional variables in predicting Time 2 status.

With respect to lottery points earned at Time 2, as seen in Models 2–5 of Table 3, the positive effect of primed happiness was significant when controlling for Extraversion ($\gamma_{10} = 6.46$), $t(105) = 2.86$, $p < .01$; trait dominance ($\gamma_{10} = .583$), $t(105) = 2.27$, $p < .02$; and trait positive affect ($\gamma_{10} = 6.35$), $t(105) = 2.78$, $p < .01$, as well as all three simultaneously ($\gamma_{10} = 6.12$), $t(103) = 2.64$, $p = .01$. None of the dispositional variables predicted lottery points earned. As seen in Models 6–8 of Table 3, the experimental manipulation of emotion did not interact with any of the dispositional variables in predicting lottery points earned.

Discussion

Experiment 3 provided additional evidence for our hypothesis that individuals experiencing approach-oriented psychological states at group formation achieve increased status. More generally, these results support our general model of status hierarchy formation in which the psychological states group members bring to initial group interactions can produce enduring differences in status.

In addition, Experiment 3 provided two other important findings. First, in addition to achieving higher status, participants primed with happiness also acquired a greater share of a scarce material resource. This was a resource that participants could have kept for themselves—in giving points to their teammates, participants were imposing a direct cost on themselves. Furthermore, it is worth noting again that this resource was allocated 2 days after the primes were administered, suggesting that the nature of status dynamics in groups is such that variations in initial conditions can have long-lasting consequences—for both social and financial resources.

Second, we observed that the effects of primed happiness upon status and material outcomes were independent of, and in this case generally larger than, the effects of more stable dispositions. These results suggest that temporary approach-oriented states, when coinciding with group formation, benefit individuals generally, and

⁴ Two of the groups were mixed-gender; inclusion or exclusion of these groups did not change our results.

Table 1
HLM Regressions of Time 1 Status in Experiment 3

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Primed happiness	0.29* (0.12)	0.29* (0.12)	0.33** (0.12)	0.30* (0.12)	0.31* (0.12)	0.28* (0.12)	0.34** (0.12)	0.29* (0.12)
Extraversion		0.09† (0.06)			0.06 (0.07)	0.11 (0.06)		
Dominance			0.11† (0.06)		0.08 (0.06)		0.14 (0.06)	
Trait positive affect				0.04 (0.06)	0.01 (0.06)			0.02 (0.07)
Happiness × Extraversion						0.04 (0.06)		
Happiness × Dominance							0.07 (0.06)	
Happiness × Trait Positive Affect								-0.05 (0.07)

Note. *N* = 108. Primed happiness is a dummy variable: Happy = 1; Sad/control = 0. Personality variables are in standardized form. HLM = hierarchical linear modeling. Standard errors are in parentheses.

† *p* ≤ .10. * *p* ≤ .05. ** *p* ≤ .01.

might actually be more important in determining status and success than long-term dispositions.

General Discussion

Across three experiments, participants randomly assigned to experience approach-oriented psychological states immediately prior to group formation achieved higher status in their newly formed groups. In Experiment 1, participants primed with a promotion focus achieved higher status, and this was mediated by self- and peer ratings of proactive behavior. In Experiment 2, participants primed to feel powerful achieved higher status, and this was mediated by proactive behavior exhibited during the first few minutes of group interaction, as assessed by independent coders. Finally, in Experiment 3, participants primed with happiness achieved higher status, as well as higher levels of a tangible material resource.

These status effects occurred above and beyond dispositional differences in extraversion, trait dominance, and positive affect. Furthermore, except for one instance in the Experiment 2, Round 2, data, dispositional traits did not interact with our approach mindset manipulations. Future research, however, should continue to explore the possible interactions between initial mindsets and stable characteristics on status attainment.

Experiments 2 and 3 were longitudinal experiments that allowed us to demonstrate that the positive status consequences of initial approach-oriented states carried over to group interactions that involved new tasks and took place well after any intrapsychic effects of our primes would be expected to persist. Given past

research showing that priming effects dissipate quickly and often lack any discernible longevity (e.g., Bargh et al., 1988), our results may seem surprising. It is important to reiterate, however, that we are not claiming to have observed direct effects of priming manipulations upon behavior 2 days later. Instead, we propose that these primes affected initial behavior, which in turn set up interaction patterns within the group that persisted over time, due to the reinforcing nature of group dynamics, and group hierarchy in particular. Indeed, in Experiment 2 we observed that proactive behavior during the first few minutes of interaction after group formation mediated the effects of our prime on subsequent status 2 days later. Although individuals' initial psychological states may wear off quickly, they have the potential to set precedents and patterns that persist, particularly in group settings.

Theoretical and Empirical Contributions

The current findings make a number of important contributions. First, they extend our understanding of how humans organize themselves hierarchically. Previous research on the formation of status hierarchies has generally emphasized the role of stable characteristics, suggesting that status is largely predetermined by individuals' skills, demographics, background, and personality. Even work that has examined behaviors used to achieve or negotiate status has typically emphasized the role of stable personality traits in driving these behaviors (Anderson & Kilduff, 2009; Flynn, Reagans, Amanatullah, & Ames, 2006), again suggesting that the status organization process is fairly straightforward and predictable based on enduring characteristics.

Table 2
HLM Regressions of Time 2 Status in Experiment 3

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Primed happiness	0.37† (0.20)	0.37† (0.20)	0.36† (0.20)	0.41* (0.19)	0.40* (0.20)	0.37* (0.19)	0.39* (0.20)	0.40* (0.20)
Extraversion		0.03 (0.07)			-0.01 (0.08)	0.04 (0.09)		
Dominance			-0.03 (0.09)		-0.04 (0.10)		0.03 (0.10)	
Trait positive affect				0.18† (0.10)	0.19† (0.11)			0.15 (0.11)
Happiness × Extraversion						-0.01 (0.10)		
Happiness × Dominance							0.13 (0.10)	
Happiness × Trait Positive Affect								-0.04 (0.11)

Note. *N* = 108. Primed happiness is a dummy variable: Happy = 1; Sad/control = 0. Personality variables are in standardized form. HLM = hierarchical linear modeling. Standard errors are in parentheses.

† *p* ≤ .10. * *p* ≤ .05.

Table 3
HLM Regressions of Time 2 Lottery Points in Experiment 3

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Primed happiness	6.37** (2.26)	6.46** (2.26)	5.83* (2.27)	6.35** (2.28)	6.12** (2.32)	6.46** (2.27)	5.76* (2.30)	6.19** (2.30)
Extraversion		-1.42 (1.07)			-1.03 (1.30)	-1.39 (1.18)		
Dominance			-1.71 (1.08)		-1.29 (1.21)		-1.83 (1.18)	
Trait positive affect				-0.10 (1.08)	0.41 (1.18)			-0.53 (1.23)
Happiness × Extraversion						0.08 (1.18)		
Happiness × Dominance							-0.32 (1.18)	
Happiness × Trait Positive Affect								-0.93 (1.23)

Note. $N = 108$. Primed happiness is a dummy variable: Happy = 1; Sad/control = 0. Personality variables are in standardized form. HLM = hierarchical linear modeling. Standard errors are in parentheses.

* $p \leq .05$. ** $p \leq .01$.

In contrast, our theoretical model and findings depict the status organization process as dynamic, path dependent, and sensitive to more subtle and transient factors, particularly at a group's inception. In addition to their enduring attributes, the psychological states that individuals carry into incipient groups can play a significant role in determining the group's status hierarchy. Related, our work suggests that initial group interaction is particularly influential in determining groups' status hierarchies. Although some prior work alluded to the potential importance of early interaction (Berger & Connor, 1969; Berger et al., 1969), our work provides direct support for this idea by finding that early proactive behavior, even when driven by random assignment to experimental primes, resulted in increased status.

Second, our results provide perhaps the most direct empirical demonstration of the reinforcing nature of status to date. Prior work has observed general stability in hierarchy, and that individuals with higher formal rank or social class enjoy increased expectations of performance. We go further by showing that initial status advantages driven by experimentally manipulated approach-oriented mindsets that are unobservable by teammates, and divorced from stable characteristics or task-relevant expertise, persist in freely interacting groups and across multiple meetings and group activities.

Third, in linking regulatory focus, power, and happiness to status, our work contributes both to our knowledge of the predictors of status as well as to the literatures surrounding each of these psychological constructs. To our knowledge, these results are the first to examine the status consequences of regulatory focus, and

among the first to examine how regulatory focus affects group dynamics in general (see also Sassenberg, Jonas, Shah, & Brazy, 2007). With respect to power, although power and status are often thought of as related constructs (Magee & Galinsky, 2008), our work shows a direct link between the two: Individuals experiencing power may act in ways that earn them greater status and access to resources. Lastly, with respect to emotions, prior work has shown how "incidental" emotions can have significant effects on economic decisions in unrelated domains (e.g., Lerner et al., 2004); we show that incidental emotions can have consequences for group dynamics and social outcomes as well.

Fourth, our findings extend existing research on priming effects and support the essence of social psychological interpretations of behavior: that the psychological lenses people bring to a situation are a primary determinant of their behavior (Ross & Nisbett, 1991). Our results extend this perspective by showing that in the group context, primed psychological states may have effects on behavior that endure long after these initial states have dissipated. Past work on priming has found that its effects dissipate quickly. However, we find that within the context of a newly formed group, priming can have consequences that endure over multiple days, not within the mind of a single individual but through the reinforcing nature of group interaction.

The Butterfly Effect of Status

The idea that relatively minor and temporary psychological differences within individuals can play out in long-lasting and important consequences for groups is reminiscent of the "butterfly effect" from chaos theory in physics. Specifically, the butterfly effect describes how small variations in the initial conditions of dynamic systems can result in large differences to later states (Lorenz, 1963). The theory's originator, Edward Lorenz, initially came upon this idea in 1961, while running a computer simulation to predict weather patterns (Mathis, 2007). During a particular run of the simulation, he shortened the value for one of the initial parameters from .506127 to .506, as a simple shortcut. To his amazement, this produced an entirely different simulated weather pattern, illustrating the sensitivity of dynamic systems to initial conditions. Although our results are perhaps not as dramatic as the hypothetical example of a butterfly flapping its wings on one side of the world and causing a hurricane on the other, we believe that the nature of status organization within groups is similarly dynamic and sensitive to initial conditions.

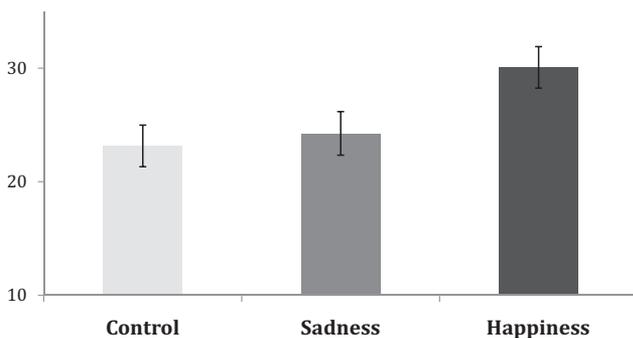


Figure 5. Time 2 lottery points by condition in Experiment 3. Error bars represent ± 1 SEM.

Interestingly, this notion of a butterfly effect of status suggests an element of randomness in how humans organize themselves hierarchically, and in life's outcomes more generally. Status and success may be driven, to some extent, by chance variation in the mindsets individuals bring to group interactions, in addition to more stable individual and situational factors. This may be especially true if status in one group setting begets status in others.

One implication is that individuals may be able to achieve significantly higher status than their stable characteristics would predict if they can successfully adjust their psychological states or behavior during initial group interaction. Much as prior research has shown how attributes that may be unrelated to competence or value—race, height, personality—can determine status (e.g., Anderson & Kilduff, 2009; Berger et al., 1980), our work establishes another way in which those at the top of hierarchies may not always represent the best and brightest.

Future Directions

There are many possible future directions that could build on the current research. First, it may be that the positive effect of approach-oriented states on status only occurs in contexts and cultures in which proactive and assertive behaviors are desired and rewarded. For example, approach-oriented states might not result in higher status attainment in East Asian cultures that are characterized by a focus on interdependence. East Asians generally strive to fulfill obligations and responsibilities to others and maintain intragroup harmony rather than striving for individual initiative and achievement (Heine, Lehman, Markus, & Kitayama, 1999; Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997; Markus & Kitayama, 1991). In contrast to the West, these Eastern traditions emphasize modesty and humility over self-promotion (Heine et al., 1999), and although Westerners are more likely to recognize the role of leaders as standing above the group to assert influence, East Asians tend to view leaders as staying behind the group to provide support (Menon, Sim, Fu, Chiu, & Hong, 2010). For these reasons, it is possible that approach-oriented psychological states and the kind of assertive and proactive behavior they engender might actually lead to lower status within groups in East Asian and other interdependent cultures and contexts. Future research should examine this possibility.

Second, it would be interesting to examine the status consequences, if any, of individuals' psychological states occurring at times after group formation. Can individuals' psychological states affect status hierarchies that are already in place? Given research suggesting that hierarchies are generally stable (Anderson et al., 2001; Bales et al., 1951; Henicke & Bales, 1953), we might expect the answer to be no, that it is only during initial group interactions that temporary states exert an influence. However, perhaps there are key points or transition periods in a group's lifetime during which the status hierarchy becomes temporarily more flexible, at which point group members' psychological states might again play an important role.

Future research should seek to further explore this time-dependent notion of status—examining whether there may be certain times during which status mobility is higher or lower and whether the status consequences of various traits and behaviors may vary along the life of groups (Deuling, Denissen, van Zalk, Meeus, & van Aken, 2011). Furthermore, building on the idea that

status is path dependent, it would be interesting to explore whether the timing and order in which certain characteristics are revealed, or certain behaviors exhibited, affects status attainment. For instance, does revealing a positive competence cue followed by a negative one have the same implications for status as revealing the negative cue first, followed by the positive one? Our arguments surrounding the importance of first impressions for status attainment would suggest that the former may result in higher status than the latter, a testable hypothesis for future work. Research on status characteristics has generally assumed that all characteristics are revealed simultaneously at the beginning of group interaction, but for less observable characteristics such as education or experience, this may not be the case.

Lastly, in a related vein, it would be worthwhile to examine the effects we observed over a longer period of time. Although temporary teams are becoming increasingly common (Barnett & Hall, 2007; Presser, 2003), and Experiments 2 and 3 examined groups at two different points in time—thus going beyond many studies of status conducted in one-shot settings (e.g., Anderson & Kilduff, 2009; Ridgeway, 1987)—it would still be worthwhile to track our effects within more long-term groups. Do the consequences of initial approach-oriented states and proactive behavior endure over the course of many group meetings, as group members come to know one another more intimately? Again, the reinforcing nature of hierarchy and group dynamics would suggest they do; however, it is also possible that characteristics and behaviors more directly relevant to group activities might come to carry more weight as groups learn more about the skill sets of their members. It would also be worthwhile to conduct a longitudinal study in which no Time 1 status measures were collected, thus eliminating any concerns that the process of polling participants about status might have served to codify status differences in the long term.

Conclusion

Our research provides initial evidence for a provocative answer to the question of who gets ahead in life. Related to the idea that success is sometimes just a product of being in the right place at the right time (Gladwell, 2008), our studies suggest that achieving status may also be a matter of being in the right *frame of mind* at the right time.

References

- Anderson, C., Brion, S., Moore, D. A., & Kennedy, J. A. (2012). A status-enhancement account of overconfidence. *Journal of Personality and Social Psychology, 103*, 718–735. doi:10.1037/a0029395
- Anderson, C., & Galinsky, A. D. (2006). Power, optimism, and risk-taking. *European Journal of Social Psychology, 36*, 511–536.
- Anderson, C., John, O. P., Keltner, D., & Kring, A. M. (2001). Who attains social status? Effects of personality and physical attractiveness in social groups. *Journal of Personality and Social Psychology, 81*, 116–132. doi:10.1037/0022-3514.81.1.116
- Anderson, C., & Kilduff, G. J. (2009). Why do dominant personalities attain influence in face-to-face groups? The competence-signaling effects of trait dominance. *Journal of Personality and Social Psychology, 96*, 491–503. doi:10.1037/a0014201
- Anderson, C., Spataro, S. E., & Flynn, F. J. (2008). Personality and organizational culture as determinants of influence. *Journal of Applied Psychology, 93*, 702–710. doi:10.1037/0021-9010.93.3.702

- Andrade, E. B., & Ariely, D. (2009). The enduring impact of transient emotions on decision making. *Organizational Behavior and Human Decision Processes*, *109*, 1–8. doi:10.1016/j.obhdp.2009.02.003
- Bales, R. F., Strodtbeck, F. L., Mills, T. M., & Roseborough, M. E. (1951). Channels of communication in small groups. *American Sociological Review*, *16*, 461–468. doi:10.2307/2088276
- Bargh, J. A., Chen, M., & Burrows, L. (1996). Automaticity of social behavior: Direct effects of trait construct and stereotype activation on action. *Journal of Personality and Social Psychology*, *71*, 230–244. doi:10.1037/0022-3514.71.2.230
- Bargh, J. A., Lombardi, W. J., & Higgins, E. T. (1988). Automaticity of chronically accessible constructs in Person \times Situation effects on person perception: It's just a matter of time. *Journal of Personality and Social Psychology*, *55*, 599–605. doi:10.1037/0022-3514.55.4.599
- Barkow, J. H. (1975). Prestige and culture: Biosocial interpretation. *Current Anthropology*, *16*, 553–572. doi:10.1086/201619
- Barnett, R. C., & Hall, D. T. (2007). The silver lining in shift work: Can your organization take advantage of it? *Organizational Dynamics*, *36*, 404–417. doi:10.1016/j.orgdyn.2007.06.006
- Berger, J., Cohen, B. P., & Zelditch, M. (1972). Status characteristics and social interaction. *American Sociological Review*, *37*, 241–255. doi:10.2307/2093465
- Berger, J., & Conner, T. L. (1969). Performance expectations and behavior in small groups. *Acta Sociologica*, *12*, 186–198.
- Berger, J., Conner, T. L., & McKeown, W. L. (1969). Evaluations and the formation and maintenance of performance expectations. *Human Relations*, *22*, 481–502.
- Berger, J., Rosenholtz, S. J., & Zelditch, M. (1980). Status organizing processes. *Annual Review of Sociology*, *6*, 479–508. doi:10.1146/annurev.so.06.080180.002403
- Bindl, U. K., Parker, S. K., Totterdell, P., & Hagger-Johnson, G. (2012). Fuel of the self-starter: How mood relates to proactive goal regulation. *Journal of Applied Psychology*, *97*, 134–150. doi:10.1037/a0024368
- Blau, P. M. (1964). *Exchange and power in social life*. New York, NY: John Wiley & Sons.
- Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology*, *67*, 319–333. doi:10.1037/0022-3514.67.2.319
- Crowe, E., & Higgins, E. T. (1997). Regulatory focus and strategic inclinations: Promotion and prevention in decision-making. *Organizational Behavior and Human Decision Processes*, *6*, 117–132.
- De Dreu, K. W., Baas, M., & Nijstad, B. A. (2008). Hedonic tone and activation level in the mood–creativity link: Toward a dual pathway to creativity model. *Journal of Personality and Social Psychology*, *94*, 739–756. doi:10.1037/0022-3514.94.5.739
- Deuling, J. K., Denissen, J. J. A., van Zalk, M., Meeus, W., & van Aken, M. (2011). Perceived influence in groups over time: How associations with personality and cognitive ability can change over time. *Journal of Research in Personality*, *45*, 576–585.
- De Waal, F. (1982). *Chimpanzee politics: Power and sex among apes*. New York, NY: Harper & Row.
- Dovidio, J. F., & Ellyson, S. L. (1982). Decoding visual dominance: Attributions of power based on relative percentages of looking while speaking and looking while listening. *Social Psychology Quarterly*, *45*, 106–113. doi:10.2307/3033933
- Driskell, J. E., & Mullen, B. (1990). Status, expectations, and behavior: A meta-analytic review and test of the theory. *Personality and Social Psychology Bulletin*, *16*, 541–553.
- Ellis, L. (1994). *Social stratification and socioeconomic inequality, Vol. 2: Reproductive and interpersonal aspects of dominance and status*. Westport, CN: Praeger.
- Flynn, F. J., Reagans, R. E., Amanatullah, E. T., & Ames, D. R. (2006). Helping one's way to the top: Self-monitors achieve status by helping others and knowing who helps whom. *Journal of Personality and Social Psychology*, *91*, 1123–1137. doi:10.1037/0022-3514.91.6.1123
- Galinsky, A. D., Gruenfeld, D. H., & Magee, J. C. (2003). From power to action. *Journal of Personality and Social Psychology*, *85*, 453–466. doi:10.1037/0022-3514.85.3.453
- Galinsky, A. D., Leonardelli, G. J., Okhuysen, G. A., & Mussweiler, T. (2005). Regulatory focus at the bargaining table: Promoting distributive and integrative success. *Personality and Social Psychology Bulletin*, *31*, 1087–1098.
- Gino, F., & Margolis, J. D. (2011). Bringing ethics into focus: How regulatory focus and risk preferences influence (un)ethical behavior. *Organizational Behavior and Human Decision Processes*, *115*, 145–156.
- Gladwell, M. (2008). *Outliers*. New York, NY: Little, Brown and Company.
- Goldhamer, H., & Shils, E. A. (1939). Types of power and status. *American Journal of Sociology*, *45*, 171–182.
- Gosling, S. D., Rentfrow, P. J., & Swann, W. B., Jr. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, *37*, 504–528.
- Gruenfeld, D. H., Inesi, M. E., Magee, J. C., & Galinsky, A. D. (2008). Power and the objectification of social targets. *Journal of Personality and Social Psychology*, *95*, 111–127. doi:10.1037/0022-3514.95.1.111
- Hardy, C. L., & Van Vugt, M. (2006). “Nice guys finish first: The competitive altruism hypothesis. *Personality and Social Psychology Bulletin*, *32*, 1402–1413. doi:10.1177/0146167206291006
- Harvey, O. J. (1953). An experimental approach to the study of status relations in informal groups. *American Sociological Review*, *18*, 357–367.
- Heine, S. J., Lehman, D. R., Markus, H. R., & Kitayama, S. (1999). Is there a universal need for positive self-regard? *Psychological Review*, *106*, 766–794.
- Heinicke, C., & Bales, R. F. (1953). Developmental trends in the structure of small groups. *Sociometry*, *16*, 7–38. doi:10.2307/2785953
- Heponiemi, T., Keltikangas-Jarvinen, L., & Puttonen, N. (2003). BIS/BAS sensitivity and self-rated affects during experimentally induced stress. *Personality and Individual Differences*, *34*, 943–957. doi:10.1016/S0191-8869(02)00079-X
- Heubeck, B., Wilkinson, R., & Cologon, J. (1998). A second look at Carver and White's (1994) BIS/BAS scales. *Personality and Individual Differences*, *25*, 785–800. doi:10.1016/S0191-8869(98)00124-X
- Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist*, *52*, 1280–1300. doi:10.1037/0003-066X.52.12.1280
- Higgins, E. T. (1998). Promotion and prevention: Regulatory focus as a motivational principle. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 30, pp. 1–46). San Diego, CA: Academic Press. doi:10.1016/S0065-2601(08)60381-0
- Higgins, E. T. (2002). How self-regulation creates distinct values: The case of promotion and prevention decision making. *Journal of Consumer Psychology*, *12*, 177–191.
- Hofmann, D. A. (1997). An overview of the logic and rationale of hierarchical linear models. *Journal of Management*, *23*, 723–744. doi:10.1177/014920639702300602
- Humphrey, R. (1985). How work roles influence perception: Structural-cognitive processes and organizational behavior. *American Sociological Review*, *50*, 242–252. doi:10.2307/2095412
- Isen, A. M., Clark, M. S., & Schwartz, M. F. (1976). Duration of the effect of good mood on helping: Footprints on the sands of time. *Journal of Personality and Social Psychology*, *34*, 385–393. doi:10.1037/0022-3514.34.3.385
- John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 102–138). New York, NY: Guilford Press.

- Josephs, R. A., Sellers, J. G., Newman, M. L., & Mehta, P. H. (2006). The mismatch effect: When testosterone and status are at odds. *Journal of Personality and Social Psychology, 90*, 999–1013. doi:10.1037/0022-3514.90.6.999
- Judge, T. A., Bono, J. E., Ilies, R., & Gerhardt, M. W. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology, 87*, 765–780. doi:10.1037/0021-9010.87.4.765
- Kalma, A. (1991). Hierarchisation and dominance assessment at 1st glance. *European Journal of Social Psychology, 21*, 165–181. doi:10.1002/ejsp.2420210206
- Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological Review, 110*, 265–284. doi:10.1037/0033-295X.110.2.265
- Kitayama, S., Markus, H. R., Matsumoto, H., & Norasakkunkit, V. (1997). Individual and collective processes in the construction of the self: Self-enhancement in the United States and self-criticism in Japan. *Journal of Personality and Social Psychology, 72*, 1245–1267.
- Kunstman, J. W., & Maner, J. K. (2011). Sexual overperception: Power, mating motives, and biases in social judgment. *Journal of Personality and Social Psychology, 100*, 282–294. doi:10.1037/a0021135
- Leary, M. R., Cottrell, C. A., & Phillips, M. (2001). Deconfounding the effects of dominance and social acceptance on self-esteem. *Journal of Personality and Social Psychology, 81*, 898–909.
- Lerner, J. S., Small, D. A., & Loewenstein, G. (2004). Heart strings and purse strings: Carry-over effects of emotions on economic transactions. *Psychological Science, 15*, 337–341. doi:10.1111/j.0956-7976.2004.00679.x
- Lieberman, N., Molden, D. C., Idson, L. C., & Higgins, E. T. (2001). Promotion and prevention focus on alternative hypotheses: Implications for attributional functions. *Journal of Personality and Social Psychology, 80*, 5–18. doi:10.1037/0022-3514.80.1.5
- Lord, R. G., De Vader, C. L., & Alliger, G. M. (1986). A meta-analysis of the relation between personality traits and leadership perceptions: An application of validity generalization procedures. *Journal of Applied Psychology, 71*, 402–410. doi:10.1037/0021-9010.71.3.402
- Lord, R. G., Phillips, J. S., & Rush, M. C. (1980). Effects of sex and personality on perceptions of emergent leadership, influence, and social power. *Journal of Applied Psychology, 65*, 176–182. doi:10.1037/0021-9010.65.2.176
- Lorenz, E. N. (1963). Deterministic nonperiodic flow. *Journal of the Atmospheric Sciences, 20*, 130–141. doi:10.1175/1520-0469(1963)020<0130:DNF>2.0.CO;2
- Magee, J. C., & Galinsky, A. D. (2008). Social hierarchy: The self-reinforcing nature of power and status. *Academy of Management Annals, 2*, 351–398. doi:10.1080/19416520802211628
- Magee, J. C., Galinsky, A. D., & Gruenfeld, D. H. (2007). Power, propensity to negotiate, and moving first in competitive interactions. *Personality and Social Psychology Bulletin, 33*, 200–212.
- Maner, J. K., & Mead, N. L. (2010). The essential tension between leadership and power: When leaders sacrifice group goals for the sake of self-interest. *Journal of Personality and Social Psychology, 99*, 482–497.
- Mann, R. D. (1959). A review of the relationships between personality and performance in small groups. *Psychological Bulletin, 56*, 241–270.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224–253.
- Marmot, M. (2004). *Status syndrome: How your social standing directly affects your health and life expectancy*. London, England: Times Books.
- Mast, M. S., & Hall, J. A. (2004). Who is the boss and who is not? Accuracy of judging status. *Journal of Nonverbal Behavior, 28*, 145–165.
- Mathis, N. (2007). *Storm warning: The story of a killer tornado*. New York, NY: Touchstone.
- Mazur, A. (1973). A cross-species comparison of status in small established groups. *American Sociological Review, 38*, 513–530.
- McCrae, R. R., & Costa, P. T., Jr. (1999). A five-factor theory of personality. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 139–153). New York, NY: Guilford Press.
- Menon, T., Sim, J., Fu, J. H. Y., Chiu, C. Y., & Hong, Y. Y. (2010). Blazing the trail versus trailing the group: Culture and perceptions of the leader's position. *Organizational Behavior and Human Decision Processes, 113*, 51–61.
- Merton, R. K. (1948). The self-fulfilling prophecy. *Antioch Review, 8*, 193–210.
- Moore, J. C., Jr. (1968). Status and influence in small group interactions. *Sociometry, 31*, 47–63.
- Newman, M. L., Sellers, J. G., & Josephs, R. A. (2005). Testosterone, cognition, and social status. *Hormones and Behavior, 47*, 205–211.
- Olson, J. M., Roese, N. J., & Zanna, M. P. (1996). Expectancies. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 211–238). New York, NY: Guilford Press.
- Pickering, A. D., Corr, P. J., & Gray, J. A. (1999). Interactions and reinforcement sensitivity theory: A theoretical analysis of Rusting and Larsen (1997). *Personality and Individual Differences, 26*, 357–365.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers, 36*, 717–731.
- Presser, H. (2003). *Working in the 24/7 economy*. New York, NY: Russell Sage Foundation.
- Raudenbush, S. W., Bryk, T., & Congdon, R. (2008). *HLM for Windows 6: Hierarchical linear and nonlinear modeling*. Lincolnwood, IL: Scientific Software International.
- Ridgeway, C. L. (1987). Nonverbal behavior, dominance, and the basis of status in task groups. *American Sociological Review, 52*, 683–694.
- Rosenthal, R., & Jacobson, L. (1992). *Pygmalion in the classroom (expanded ed.)*. New York, NY: Irvington.
- Ross, L., & Nisbett, R. E. (1991). *The person and the situation: Perspectives of social psychology*. New York, NY: McGraw-Hill.
- Rucker, D. D., & Galinsky, A. D. (2008). Desire to acquire: Powerlessness and compensatory consumption. *Journal of Consumer Research, 35*, 257–267.
- Russell, J. A., & Barrett, L. F. (1999). Core affect, prototypical emotional episodes, and other things called emotion: Dissecting the elephant. *Journal of Personality and Social Psychology, 76*, 805–819.
- Sande, G. N., Ellard, J. H., & Ross, M. (1986). Effect of arbitrarily assigned status labels on self-perceptions and social perceptions: The mere position effect. *Journal of Personality and Social Psychology, 50*, 684–689.
- Sassenberg, K., Jonas, K. J., Shah, J. Y., & Brazy, P. C. (2007). Why some groups just feel better: The regulatory fit of group power. *Journal of Personality and Social Psychology, 92*, 249–267.
- Shelly, R. K. (1997). Sequences and cycles in social interaction. *Small Group Research, 28*, 333–356.
- Shelly, R. K., & Troyer, L. (2001). Emergence and completion of structure in initially undefined and partially defined groups. *Social Psychology Quarterly, 64*, 318–332.
- Shelly, R. K., & Webster, M., Jr. (1997). How formal status, liking, and ability status structure interaction: Three theoretical principles and a test. *Sociological Perspectives, 40*, 81–107.
- Sherif, M. (1936). *The psychology of social norms*. New York, NY: Harper & Brothers.
- Sherif, M., White, B. J., & Harvey, O. J. (1955). Status in experimentally produced groups. *American Journal of Sociology, 60*, 370–379.
- Shteynberg, G., & Galinsky, A. D. (2011). Implicit coordination: Sharing goals with similar others intensifies goal pursuit. *Journal of Experimental Social Psychology, 47*, 1291–1294.

- Smith, E. R., Stewart, T. L., & Buttram, R. T. (1992). Inferring a trait from a behavior has long-term, highly specific effects. *Journal of Personality and Social Psychology*, *62*, 753–759.
- Srull, T. K., & Wyer, R. S., Jr. (1979). The role of category accessibility in the interpretation of information about persons: Some determinants and implications. *Journal of Personality and Social Psychology*, *37*, 1660–1667.
- Srull, T. K., & Wyer, R. S. (1980). Category accessibility and social perception: Some implications for the study of person memory and interpersonal judgments. *Journal of Personality and Social Psychology*, *38*, 841–856.
- Tiedens, L. Z. (2001). Anger and advancement versus sadness and subjugation: The effect of negative emotion expressions on social status conferral. *Journal of Personality and Social Psychology*, *80*, 86–94.
- Tiedens, L. Z., & Linton, S. (2001). Judgment under emotional certainty and uncertainty: The effects of specific emotions and their associated certainty appraisals on cognitive processing. *Journal of Personality and Social Psychology*, *81*, 973–988.
- Van Vugt, M. (2006). Evolutionary origins of leadership and followership. *Personality and Social Psychology Review*, *10*, 354–371.
- Watson, D., & Clark, L. A. (1994). *The PANAS-X: Manual for the Positive and Negative Affect Schedule-Expanded Form*. Iowa City: University of Iowa.
- Weber, J. M., & Murnighan, J. K. (2008). Suckers or saviors? Consistent contributors in social dilemmas. *Journal of Personality and Social Psychology*, *95*, 1340–1353.
- Wiggins, J. S., Trapnell, P., & Phillips, N. (1988). Psychometric properties and geometric characteristics of the Revised Interpersonal Adjective Scales (IAS-R). *Multivariate Behavioral Research*, *23*, 517–530.
- Willer, R. (2009). Groups reward individual sacrifice: The status solution to the collective action problem. *American Sociological Review*, *74*, 23–43.
- Yan, C., & Dillard, J. P. (2010). Emotion inductions cause changes in activation levels of the behavioural inhibition and approach systems. *Personality and Individual Differences*, *48*, 676–680. doi:10.1016/j.paid.2009.12.002

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