Dominance and Prestige: Dual Strategies for Navigating Social Hierarchies

J.K. Maner[*,1], C.R. Case[*,†]

*Kellogg School of Management, Northwestern University, Evanston, IL, United States
†Florida State University, Tallahassee, FL, United States
[1]Corresponding author: e-mail address: jon.maner@kellogg.northwestern.edu

Contents

Abstract

The presence of hierarchy is a ubiquitous feature of human social groups. An evolutionary perspective provides novel insight into the nature of hierarchy, including its causes and consequences. When integrated with theory and data from social psychology, an evolutionary approach provides a conceptual framework for understanding the

strategies that people use to navigate their way through social hierarchies. This article focuses on two strategies—dominance and prestige—that have played a key role in regulating human hierarchies throughout history. Dominance reflects a repertoire of behaviors, cognitions, and emotions aimed at attaining social rank through coercion, intimidation, and the selfish manipulation of group resources. Prestige instead reflects behaviors, cognitions, and emotions aimed at attaining social rank through the display of valued knowledge and skill. Despite their similarities (both are aimed at attaining social rank) the two strategies involve very different sets of social psychological phenomena. In addition to (1) discussing and differentiating the two strategies, this chapter (2) describes a program of research investigating their implications for leadership behavior, (3) considers implications of this framework for a number of other social psychological literatures, and (4) provides recommendations for further examining the operation of the two strategies in social groups.

Men are driven by two principal impulses, either by love or by fear.

Machiavelli (1532/1992)

Why are most human social groups organized hierarchically? And why are many people so motivated to acquire positions of high social rank within those groups? Many behavioral scientists, social psychologists included, would answer these questions by pointing to the macrolevel benefits experienced by groups that have social hierarchy, as well as the microlevel benefits enjoyed by the individuals who possess high social rank. For instance, groups that have some type of hierarchy often are better able to coordinate the actions of their members, and the presence of hierarchy can incentivize group members to behave in ways that benefit the group (eg, Magee & Galinsky, 2008; Van Vugt, 2006). For the individual, having high social status means getting to enjoy access to abundant resources, respect, and the ability to live comfortably without being too dependent on other people (eg, Keltner, Gruenfeld, & Anderson, 2003).

Thus, the benefits of hierarchy, both to the group and to the individual, seem quite evident. Indeed, social psychologists have not only clearly highlighted the proximate features of social hierarchy, but have provided strong evidence for the benefits to be had by hierarchically arranged groups and the individuals who comprise them.

Yet, the answers social psychologists are likely to provide for questions about social hierarchy belie a deeper set of considerations—one that involves the history of the human species and ties the psychology of social hierarchy to the underlying evolutionary forces that set the stage for group living in contemporary humans. Throughout human history, the presence of hierarchy has been a very common, if not ubiquitous, feature of social groups. The

presence of social hierarchy stretches back across tens of thousands of generations to the advent of *Homo sapiens* and, indeed, much further to include other primate species. The existence of hierarchy substantially predates humans and is clearly manifested in every extant great ape species, which includes chimpanzees, bonobos, gorillas, and orangutans (eg, de Waal, 1999).

When integrated with insights from social psychology, an evolutionary perspective provides a valuable theoretical framework for understanding the psychology of social hierarchy. The human mind is, quite literally, designed to live within hierarchically arranged groups. If one wants to understand the psychology of social hierarchy, then, one ought to not only delineate the proximate features of hierarchically arranged groups but also their more ultimate evolutionary origins. The integration of evolutionary and social psychological perspectives provides a useful means of generating and testing nuanced hypotheses about the nature of social hierarchy, the strategies people use to navigate hierarchies, and the cognitive consequences of possessing high vs low social rank (see Maner, in press).

This chapter considers the psychology of social hierarchy from an evolutionary social psychological perspective. It focuses, in particular, on the strategies that people use to navigate social hierarchies and to attain high social rank. Based on a distinction introduced by Henrich and Gil-White (2001), we have investigated a dual-strategies theory, one that specifies two strategies—dominance and prestige—that people use to attain and maintain their social rank within hierarchical groups (see also Cheng, Tracy, Foulsham, Kingstone, & Henrich, 2013; Maner & Mead, 2010). As Machiavelli noted, love and fear are both valuable assets that can be used to influence others. Whereas influencing others through "love" applies to those who adopt a prestige-oriented approach to social hierarchy, influencing others through fear applies primarily to those who adopt a dominance-oriented approach.

The chapter is divided into three main sections. Section 1 briefly summarizes the logic behind an evolutionary approach to social hierarchy, and presents conceptual and empirical evidence for dominance and prestige as dual strategies for navigating social hierarchies. Section 2 describes a recent program of research illustrating the use of dual-strategies theory in testing hypotheses about the tactics leaders use to attain and maintain their social rank within groups. Section 3 discusses future directions for research, as well as some of the broader implications of dual-strategies theory for a number of social psychological literatures, such as those focused on social class and intergroup psychology.

1. DOMINANCE AND PRESTIGE AS EVOLVED STRATEGIES FOR NAVIGATING SOCIAL HIERARCHIES

1.1 Social Hierarchies in Evolutionary Perspective

Contemporary social hierarchies are perpetuated by evolved psychological mechanisms that were designed to navigate ancestral social hierarchies. To understand the nature of hierarchy in the here-and-now, then, one must consider evidence for what social hierarchies were like throughout most of human evolutionary history. One must also consider how evolutionary perspectives, more generally, are used to generate and test hypotheses about extant social psychological processes.

Evolutionary psychology is a scientific perspective comprising a set of assumptions that govern how scientists approach questions about behavioral phenomena (Cosmides & Tooby, 1992). Evolutionary perspectives assume that the human mind is produced by biological processes, and that human biology has been shaped by a long ancestral history of evolutionary forces. Evolutionary psychology asserts that the human mind has been designed to help people navigate important adaptive challenges that were faced by human ancestors. When applied to the conceptual landscape of behavioral science, those assumptions focus scientific inquiry on specific kinds of research questions and generate specific kinds of answers to those questions. Evolutionary psychology supplements traditional approaches by providing a deeper explanatory framework that helps explain psychological phenomena in terms of their ultimate causes. Evolutionary perspectives are valuable because they trace social psychological processes back to their underlying roots.

Evolutionary perspectives assume that people possess a set of fundamental motivational systems that guide much of human behavior. Those systems are largely domain specific and are designed to facilitate adaptive outcomes in domains including mating, relationship maintenance, social hierarchy, affiliation, self-protection, disease avoidance, and offspring care (Kenrick, Griskevicius, Neuberg, & Schaller, 2010; Kenrick, Maner, Butner, Li, & Schaller, 2002). Those systems are comprised of specific mechanisms designed to promote positive outcomes for individuals living in highly interdependent social groups. Ultimately, those mechanisms are designed to increase an individual's reproductive success, as defined by successfully passing on one's genes to successive generations. Yet, the nature of those mechanisms is impressively diverse, ranging from those that foster cooperation and prosocial behavior, on one hand, to those that promote aggression and the abuse of power, on the other hand.

One of the primary motivational systems that governs a sizable proportion of human behavior involves social hierarchy. Throughout evolutionary history, the social structures of human groups, like those of many other group-living species, have been arranged hierarchically, such that some individuals possessed higher social rank than others. Although different theorists define social rank in different ways (see, for example, Magee & Galinsky, 2008; Pratto, in press), one way of conceptualizing social rank is in terms of the amount of social influence an individual has over other group members (Berger, Rosenholtz, & Zelditch, 1980). Those high in social rank are able to exercise their will more easily than those low in rank. High-ranking group members are able to enact their desires and preferences with relative ease, and low-ranking group members are relatively susceptible to the desires and preferences of those above them in the hierarchy.

Human groups are characterized by hierarchies in which some individuals are able to exert their will more easily and forcefully than others. Possessing high social rank means having the ability to attain one's goals, influence others, control resources, and command respect. A CEO makes decisions for her company. A general provides orders that are followed by his troops. A university provost is looked to by the faculty for wisdom to help guide the academic mission of the institution. An elder scientist is admired for her achievements and knowledge of the field, and so her opinions hold sway in debates about how the field should operate. Whether the high-ranking position is formal (as in the case of the general) or informal (as in the case of the elder scientist), possessing high social rank means having the capacity to control one's own outcomes and those of others in ways that are aligned with one's personal preferences.

1.2 The Motivational Psychology of Social Rank

Any comprehensive theory of social hierarchy must account for the powerful motives that cause people to strive to increase their social rank, as well as the strategies people use to achieve that goal. The presence of social hierarchy must be considered in light of the fact that people possess a strong drive to maximize their social rank (see, for example, McClelland, 1970, 1975), and they have at their disposal a variety of tactics they use to ascend through their group hierarchy.

The reason people seek high social rank is not simply because high social rank brings happiness, independence, and well-being in the psychological here-and-now. People pursue positions of high social rank because having high rank has been an important part of ensuring the reproductive success of

one's ancestors. Throughout evolutionary history, there have been tremendous benefits to being high in social rank: greater respect, greater access to resources such as food and potential mates, and a greater ability to control one's own outcomes and satisfy one's own goals. Each of these benefits ultimately spelled greater reproductive success (eg, Barkow, 1975; Hill, 1984). As a result, people, like the members of other group-living species, have evolved motivational systems designed to help them ascend through the ranks of their social group to attain positions of high social rank. Thus, evolutionary theories emphasize the fact that, because achieving high social rank in ancestral groups resulted in greater reproductive success, people possess strong motives aimed at attaining and displaying signs of social rank.

How do people strive for high social rank? In line with the recent evolutionary psychological literature on social hierarchy (eg, Case & Maner, 2014; Cheng et al., 2013; Henrich & Gil-White, 2001; Maner & Mead, 2010), this article proposes two broad strategies through which people strive for, attain, and maintain social rank. Those two strategies—dominance and prestige—reflect a repertoire of cognitions, emotions, and behaviors aimed at helping people ascend through their group hierarchy. The following sections describe theory and evidence supporting dual-strategies theory, which implies the existence of two distinct strategies for negotiating social hierarchies (see Table 1).

1.3 Dominance

In considering the strategies people use to navigate social hierarchies, it is useful to bear in mind the strategies used by other primates, especially one of our nearest extant relatives, the chimpanzee. Chimpanzee groups provide a good comparative model for understanding the dynamics of human groups. Like humans, chimpanzees organize themselves hierarchically such that some individuals have higher rank than others, while at the same time displaying a strong propensity for affiliation and cooperative behavior (de Waal, 1999). High-ranking chimpanzees, like high-ranking people, receive respect, deference, and an inordinately large proportion of group resources.

Chimpanzee groups are marked by steep hierarchies in which an alpha individual (the top-ranking group member, virtually always a male) dominates his subordinates through intimidation, coercion, and (as a last resort) direct aggression (de Waal, 1999). Chimpanzees intimidate one another, for example, by standing their hair on end and displaying their physical prowess

Table 1 Differentiating Between Dominance and Prestige as Dual Strategies for Navigating Social Rank Hierarchies

	Dominance	Prestige
Phylogenetic history	Ancient, dating back to common ancestors of humans and other nonhuman primate species	Unique to humans; emerged when humans lived in relatively small hunter–gatherer communities
Source of deference	Deference is demanded and is a property of the actor	Deference is freely conferred and is a property of the beholder
Mechanisms of influence	Coercion, intimidation, aggression, manipulation of reward and punishment	Admiration, respect, liking, social modeling
Nature of group hierarchies	Relatively steep with large distances between those at the top and those at the bottom; power held by the most dominant individuals	Relatively flat and domain specific; people hold prestige within areas defined by their knowledge and skillset
Role of social bonds	Opportunistic and temporary use of social coalitions as a means of attaining social rank	Creation of authentic and lasting relationships with other group members
Personality correlates	Narcissistic; high in hubristic pride	High in need for affiliation; high in authentic pride

so that they look larger and more imposing. Physical altercations are relatively rare because all combatants are susceptible to grave injury, but the threat of physical violence always looms large and plays a considerable role in competitions over rank. Dominance contests are not always won by the biggest and the strongest, but physical size does help determine the winners.

Chimpanzees are also masters of coalition building. No one individual is able to achieve high social rank alone, so chimpanzees form strategic coalitions that, when called upon, provide support in the face of conflict (DeVore & Hall, 1965). Most social rank competitions are ultimately won by those with the confidence to enter into potentially violent interactions, and by those with the social support to back up their dominant advances.

Chimpanzee hierarchies are often marked by turmoil. Hierarchies are flexible in the sense that individuals consistently jockey for status and those at the top of the hierarchy are faced with consistent challenges to their status (Sapolsky, 2005). Consequently, chimpanzees at the top of the hierarchy are ever-vigilant, and exert effort to maintain the status quo. When a

high-ranking group member feels as though his social rank is not properly acknowledged by a subordinate, that lack of deference is typically perceived as a threat and results in a violent encounter with the high-ranking individual punishing the lower-ranking individual.

Conversely, those lower in the hierarchy are watchful for opportunities to increase their rank within the hierarchy, which can be achieved only by toppling other, higher-ranking individuals. Indeed, those with somewhat lower social rank can be highly opportunistic, remaining watchful for signs of weakness in, or lack of social support for, particular high-ranking individuals. When such signs are observed, lower-ranking individuals often strike with the goal of asserting their own social rank and ascending through the hierarchy. In chimpanzees, dominance competitions can be very chaotic, with many individuals getting involved. Dominance competitions can involve a tremendously complex array of individuals confronting one another through feigned attacks (called "bluffs"), amidst a cacophony of hoots and screams (de Waal, 1999).

The strategy used by chimpanzees to attain and maintain social rank can be broadly referred to as a *dominance strategy*. Humans have inherited from our prehuman ancestors a proclivity for dominant behavior (Van Vugt, 2006). Thus, dominance remains a strategy people use to navigate their way through social hierarchies (cf. Anderson & Kilduff, 2009a).

The physiological system that provides the basis for dominance involves testosterone. Testosterone in humans and many other species has been linked with aggression, competitiveness, and a propensity to act in agonistic ways toward perceived rivals (eg, Mazur & Booth, 1998; Mehta & Josephs, 2006; Wingfield, Hegner, Dufty, & Ball, 1990). People high in testosterone are more likely than those low in testosterone to rise to positions of high social rank (Sherman, Lerner, Josephs, Renshon, & Gross, in press), and high levels of testosterone are associated with corrupt and selfish forms of leadership (eg, hoarding group resources; Bendahan, Zehnder, Pralong, & Antonakis, 2015).

A key characteristic of dominance is that, when one pursues a dominance strategy, deference is not freely conferred. High social rank is not willingly offered by other individuals; social rank is seized. Individuals with high social rank receive deference from other group members not because that deference is freely offered, but rather because it was demanded. When people rule by dominance, they tend to do so via fear, not respect (Cheng, Tracy, & Henrich, 2015). Dominance can be conceptualized as being primarily a property of the actor, in the sense that social rank is regulated by active efforts on the part of the person who seeks it.

Many people use dominance as a strategy to assert and protect their social rank. Through the use of force, coercion, and the selfish manipulation of group resources, people are able to seize and maintain elevated social rank (Cheng et al., 2013; Maner & Mead, 2010). People who adopt a dominance strategy to navigate social hierarchies tend to be highly calculating and view others as allies or foes, as those who might either help or hinder their own efforts to augment their social rank. They tend to be narcissistic and to display hubristic pride marked by feelings of arrogance and narcissistic conceit (Cheng, Tracy, & Henrich, 2010).

Even when dominance is enacted via social support, that is, when individuals assert their social rank by enlisting the support of allies, often that support is coerced. Gorillas, for example, have been known to ensure the support and defense of their allies by charging at and intimidating those allies whenever the allies get out of line and it appears that their support might be waning (Nadler, 1976). Similarly, chimpanzees are able to prohibit desertion through intimation and the threat of retribution (de Waal, 1999).

1.4 Prestige

In contrast to the hierarchies of chimpanzees, ancestral human groups were characterized by relatively flat hierarchies that were defined more by prestige than by dominance (Boehm, 1999). Henrich and Gil-White (2001) proposed an "information goods" theory of prestige, wherein evolution favored adaptations that encouraged people to model themselves after highly successful group members. Their logic was that, as human social groups became increasingly complex, the development of social learning capacities played a central role in the sharing of cultural information. The evolution of social learning would have favored mechanisms that directed attention to the most successful and popular group members, because those people were likely to possess valuable knowledge and skills. Moreover, they argued, people would have developed adaptations for seeking proximity to and copying those highly successful group members. Such processes would have facilitated the effective transfer of valuable cultural information. The group members being copied could be described as having prestige, as defined by their receiving respect and admiration from other group members. Unlike dominance, prestige is thought to be a uniquely human component of social groups.

Even those who possessed high social rank usually lacked the ability to dominate other group members or to assert their will over others. Ancestral

humans lived in relatively small and highly interdependent hunter–gatherer groups marked by fierce egalitarianism and cooperative behavior (Van Vugt, Hogan, & Kaiser, 2008). Although the desire for dominance was still active in ancestral humans, hunter–gatherer groups functioned, in part, by actively reducing any one person's ability to amass too much potential for dominance, and actively suppressing dominant behavior. Leveling mechanisms such as collectively humiliating or ostracizing upstarts served to keep overly ambitious individuals in check and allowed groups to maintain their egalitarian nature (Boehm, 1999).

Thus, in ancestral human groups, people attained high social rank primarily by displaying traits, skills, and knowledge that were valuable to the group. A *prestige strategy* for navigating social hierarchies, then, exists because human cultures awarded deference and respect to individuals who meaningfully contributed to that culture. Indeed, up until the end of the last ice age (approximately 11,000 BC), human social rank hierarchies were almost exclusively regulated through prestige. Only once humans developed agricultural societies marked by division of labor, stable differentiation of social roles, and the large-scale accumulation of material resources, did dominance again become a viable strategy for attaining social rank (Van Vugt et al., 2008).

One key difference between prestige and dominance is that, unlike dominance—which must be actively and vigilantly regulated by the actor—prestige is determined by the perceiver and, as such, necessarily lies in the eye of the beholder. Another important distinction between dominance and prestige is that, whereas those pursuing a dominance strategy demand and seize social rank through coercion and intimidation, those using a prestige strategy receive social rank that is conferred freely. People who attain social status through prestige are respected and admired by observers, rather than feared.

By garnering prestige, people sometimes can ascend into positions of high social rank, passively; that is without deliberatively trying to rise above others in social rank. In ancestral human groups, for example, prestige was often bestowed upon group elders, who had experienced a lifetime of opportunities for attaining knowledge and wisdom. By analogy, prestige is often granted to emeritus faculty who, after a career's worth of achievements, possess a vast storehouse of knowledge and history about their discipline. Prestige is also won, as a by-product, by people who act from a heroic or selfless desire to help others (eg, Mahatma Gandhi).

Nevertheless, not all people attain prestige passively. Prestige also reflects a strategy through which people actively strive for social rank. While it is

true that in the case of prestige, deference is freely conferred, people can seek that deference by actively developing and displaying knowledge and skills that are valued by the group. In early human groups this likely consisted of developing and displaying one's skills at hunting, building and handling tools, mediating interpersonal conflicts among group members, and so on. In contemporary humans, the active pursuit of prestige is reflected in everything from practicing to be a professional athlete, to running for political office, to submitting manuscripts to highly visible academic journals. Even when people are not consciously aware of the ultimate goals underlying behaviors that earn them prestige (see Bargh, Gollwitzer, Lee-Chai, Barndollar, & Trotschel, 2001; Stanton & Schultheiss, 2009), many of those behaviors are nevertheless motivated by a desire for respect, admiration, and high social rank.

Pursuing a prestige strategy for social rank begets pride, but the type of pride experienced by prestigious individuals is quite different from that experienced by dominant individuals. Whereas dominance is associated with hubristic pride (feelings of arrogance and narcissistic conceit), prestige is associated with authentic pride, that is, feelings of genuine accomplishment and confidence (Cheng et al., 2010). This is consistent with the idea that prestige has been earned though the development of valuable abilities and so the respect and admiration bestowed on prestigious individuals has been well won.

Dominance and prestige also appear to be associated with differentiable physiological substrates. While there is strong evidence for a link between dominance and testosterone (Mazur & Booth, 1998), there is much less evidence for a link between testosterone and prestige. Indeed, one recent study documented a negative relation between testosterone and prestige (Johnson, Burk, & Kirkpatrick, 2007), consistent with the hypothesis that prestige is associated with an active downplaying of aggression and competitiveness (Boehm, 1999; Cheng et al., 2010).

1.5 Summary

Evolutionary perspectives suggest that there often are alternative routes to attaining the same adaptive goal. As a result, people possess the capacity to pursue alternative strategies aimed at satisfying reproductively important motivations (Gangestad & Simpson, 2000). In the domain of social hierarchy, two key strategies possessed by humans are dominance and prestige. Both reflect suites of functionally coordinated mechanisms inherited by

human ancestors, and both reflect viable routes to attaining high social rank within groups (Cheng et al., 2013).

The psychology of dominance includes cognitive, affective, physiological, and behavioral mechanisms designed to assert one's social rank through agonistic means and to seize positions of high social rank, whether or not that rank is freely granted. Dominance strategies are characterized by intimidation, coercion, and threat of aggression. Dominance reflects an evolutionarily ancient strategy that humans share in common with other primates.

The mechanisms that underlie the prestige strategy for attaining social rank are considerably newer (phylogenetically speaking) and are relatively absent in other species. Prestige strategies are characterized by mechanisms designed to attain knowledge, develop skills, and foster abilities likely to bring respect and admiration from other group members. Unlike dominance, prestige is freely conferred.

Recent studies provide evidence that both dominance and prestige serve as routes to attaining high rank and social influence within newly formed groups. Cheng et al. (2013) had research participants form small groups to perform a task that required them to discuss a common problem and arrive at a consensus solution. Participants arrived at the study having already provided the researchers with their own opinions on how the task should be solved. During the task, participants had the opportunity to voice their opinions, to influence others, and to be influenced by others in shaping the group decision. After the interaction, participants evaluated one another with respect to their use of dominance vs prestige strategies. Dominance strategies were characterized by items such as "He/she is willing to use aggressive tactics to get his/her way" and "He/she enjoys having authority over other members of the group." Prestige strategies were characterized by items such as "Members of your group respect and admire him/her" and "His/her unique talents and abilities are recognized by others in the group." The degree of influence each participant had on the group decision was also evaluated by calculating the confluence of each person's initial opinions about the task and the final group decision.

The study produced a number of interesting results. First, both dominance and prestige emerged as viable yet distinct strategies aimed at exerting influence. Both sets of behaviors were associated with having a high degree of social influence—people scoring high on either dominance or prestige tended to get their way on the group task. Second, at a behavioral level, the two strategies were uncorrelated. That is, although there are reasons to expect that behaving in a dominant way might be negatively associated

with displaying behaviors likely to earn one respect, the two types of behaviors in this study were not associated with one another. Displaying dominant behaviors did not necessarily preclude the tendency to display behaviors associated with prestige. Third, in a subsequent stage of the study, an independent group of naïve participants viewed the videotaped interactions while their attention was tracked with an eye tracker. The results were telling: group members who were high in either dominance or prestige received more than their fair share of attention by observers (see also Maner, DeWall, & Gailliot, 2008). These findings provide compelling evidence that, in newly formed groups, behaviors that are characterized by both dominance and by prestige can be effective at helping individuals attain high social rank and levels of social influence. Dominance and prestige both represent viable strategies for attaining social rank within groups.

2. WHEN LEADERS SELFISHLY SACRIFICE GROUP GOALS

Empirical work using an evolutionary perspective to distinguish between dominance and prestige is still in its nascent stage. This section describes one recent program of research that has sought to differentiate between the behaviors associated with dominance vs prestige strategies for attaining social rank. This program of research has assessed individual differences in the tendency to adopt dominance vs prestige strategies for attaining social rank and has evaluated the implications of those individual differences for the way people navigate social hierarchies. This research has been aimed, in particular, at identifying the implications of individual differences in dominance and prestige strategies for leadership behavior in mixed motive situations.

The extent to which people are motivated to assert their status through dominance vs prestige may have important implications for the behaviors they display in group contexts. Even though many high status positions afford the capacity for both dominance and prestige, individuals vary in the extent to which their rank-striving motives are characterized primarily by a desire for dominance vs a desire for prestige. Some people want power and authority and are inclined to demand high social rank (a dominance strategy), whereas others are more inclined to foster in others a sense of respect and admiration (a prestige strategy). In our own work, we have referred to individuals motivated by dominance as being high in dominance motivation; in contrast, those motivated by respect have been referred to as

high in prestige motivation (Case & Maner, 2014; Maner & Mead, 2010; Mead & Maner, 2012a, 2012b).

It is important to note that these constructs do not refer to whether people actually possess a high level of dominance or prestige. Rather, they refer to the extent to which people are motivated to achieve social rank by adopting a dominance or prestige strategy. For example, a person could be high in prestige motivation (insofar as they crave respect and admiration) but low in actual prestige (they are not actually respected or admired by others). It is also important to note that, although actual behaviors associated with dominance vs prestige are not necessarily correlated (Cheng et al., 2013), and could even be negatively correlated, being high in dominance motivation is positively correlated with being high in prestige motivation (across our own studies, the correlation ranges from about 0.30 to 0.65). The positive correlation between the two motivations reflects the fact that both involve a desire for high social rank. Nevertheless, despite the positive relation between the two motives, dominance vs prestige motivations tend to have very different effects on leadership behaviors.

Many nonhuman primates exert their dominance through physical aggression and direct intimidation (de Waal, 1999). Although dominant people often are not able to assert themselves as directly and aggressively as other primates are, they nevertheless display strategies aimed at attaining and maintaining high social rank through intimidation, coercion, and the selfish manipulation of group resources. High levels of dominance motivation are associated with a tendency to protect one's own personal capacity for power, regardless of whether that power has been freely granted by subordinates. In contrast to those high in dominance motivation, those who adopt a prestige-based approach to acquiring social rank typically achieve and maintain high-ranking positions by displaying desirable traits and abilities that benefit the group, not by dominating others or using power for personal gain.

The program of research described here suggests that leaders motivated primarily by dominance, as opposed to prestige, are inclined to prioritize their own social rank over the well-being of the group. Indeed, there often exists a fundamental conflict between the motivations of leaders and followers (Boehm, 1999; Van Vugt et al., 2008). Because being low in social rank opens one up to exploitation, followers sometimes attempt to decrease the power gap between themselves and leaders (Boehm, 1999). Conversely, leaders sometimes are motivated to maintain or increase the power gap in order to protect their privileged position within the group (Maner &

Mead, 2010; Tiedens, Unzueta, & Young, 2007; Van Vugt et al., 2008). This is similar to the chimpanzee behavior patterns described earlier, wherein top-ranking individuals actively suppress subordinate individuals to reduce the possibility of a lower-ranking individual ascending in rank.

Although the immediate interests of a leader and of the group as a whole are often aligned (eg, a firm and its CEO may both benefit from increasing profits), sometimes they instead come into conflict, and actions that would benefit the group might jeopardize the leader's social rank within the group. For example, if a group includes a highly skilled member, the group as a whole might benefit from promoting that person into an influential role, but the leader might feel threatened by such an action because it could reduce the leader's relative influence and even make his or her high social rank susceptible to takeover. A CEO, for example, might feel threatened by a star mid-level manager, because the mid-level manager could be in a position to ascend through the hierarchy and eventually take over the CEO's job. This would not be unlike a beta chimpanzee (the second in social rank) challenging the alpha for top rank. Thus, leaders sometimes face competing goals. They face situations in which they must choose between pursuing actions that benefit the group and actions that safeguard their own social rank.

2.1 Primary Hypotheses

2.1.1 Dominance Hypothesis

One key hypothesis behind this research was that the motivation to pursue social rank via a dominance strategy would lead people to prioritize their own social rank over the good of the group. People motivated by dominance are concerned primarily with having authority and increasing their personal capacity for social influence. They may be willing to use agonistic and antisocial means to ensure their place at the top of the hierarchy and care little about whether their authority is granted freely and justly. This hypothesized pattern would be similar to the behavior of high-ranking chimpanzees, who fight to protect their social rank even when doing so causes harm to other group members and undermines the well-being of the group as a whole (de Waal, 1999; see also Sapolsky, 2005). Thus, we predicted that high levels of dominance motivation would be associated with a willingness to undermine group goals in favor of selfishly protecting their own social rank.

2.1.2 Prestige Hypothesis

A second hypothesis pertained to individual differences in prestige motivation—the extent to which people are inclined to strive for high social

rank via a prestige-oriented strategy. Prestige strategies are defined by a tendency to accumulate respect and admiration, both of which are freely conferred. To gain respect and admiration, people typically help other group members by sharing knowledge and valuable skills. Behaving in ways that hurt the group would undermine that approach to attaining social rank and it would potentially damage their reputation and relationships with group members. Even if it means risking their social rank in the short-term, prestige-oriented leaders were therefore expected to prioritize the well-being of the group over their own capacity for power or leadership. We did not expect them to hurt the group in order to safeguard their social rank, as dominance-motivated leaders were expected to do. In sum, behaviors designed to protect a leader's social rank at the expense of group functioning should be associated with high levels of dominance motivation rather than high levels of prestige motivation.

2.1.3 Instability Hypothesis

A third hypothesis pertained to the stability of the group hierarchy. The extent to which a hierarchy is flexible is an important situational factor affecting the dynamics of group behavior. In a flexible or unstable hierarchy, roles can change and, as such, individuals have opportunities to jockey for position (Hays & Bendersky, 2015). Low-ranking group members are able to rise through the group's ranks especially when the hierarchy is unstable. Consequently, dominant leaders in an unstable hierarchy should become especially concerned with the possibility of losing their social rank. Although people high in social rank might display chronic concerns about losing their rank, those concerns are likely to become especially salient in situations that threaten their position in the hierarchy. Indeed, in other primates, concerns about losing social rank are especially active when there is instability within the group hierarchy (Sapolsky, 2005).

Thus, above and beyond any chronic concerns about losing social rank, instability within a group's hierarchy is expected to acutely activate dominant leaders' efforts at safeguarding their social rank. Conversely, when the hierarchy is stable and high-ranking individuals feel as though their rank is safe, there is little need to expend much effort in protecting their position in the group. Under conditions of stability, even high levels of dominance motivation should not lead people to wantonly undermine the well-being of the group. Thus, we predicted an interaction between dominance motivation and hierarchy instability, such that high levels of dominance motivation would be associated with prioritizing one's own rank over the good of

the group, but only when the group hierarchy was perceived to be unstable and leaders would need to worry about potentially losing their rank.

The instability hypothesis recognizes the importance of situational forces in shaping leadership behavior. In contrast to the adage that "absolute power corrupts," the instability hypothesis suggests that unstable power may be more likely to produce corruption than absolute power, because instability is expected to evoke in dominant leaders a sense of threat. Indeed, our conceptual framework takes from social psychology a focus on person-by-situation interactions; we expected evidence for the selfish prioritization of one's own social rank to emerge most clearly among individuals high in dominance motivation and mainly when the hierarchy is unstable.

2.2 Tactics Dominant Leaders Use to Protect Their Social Rank

One of the biggest threats to a person's high social rank is the presence of other group members who might be in a position to ascend above that individual in rank. Consequently, dominant leaders employ a variety of strategies to prevent group members from usurping their high-ranking position. In nonhuman primates like chimpanzees, high-ranking individuals often perform elaborate displays of their physical prowess toward lower-ranking group members as a means of intimidation. They aggressively drum on buttress roots, swing branches, throw rocks, and perform bluff attacks, all while standing over or charging at their subordinates (de Waal, 1999).

Unlike high-ranking chimpanzees, human leaders often are prohibited from acting in openly hostile ways toward those who threaten their rank. Laws, social norms, and the potential for retribution typically prevent dominant leaders from displaying direct aggression toward subordinates. Instead, leaders rely on other, subtler tactics designed to indirectly reduce perceived threats posed by ambitious group members. Those strategies, while indirect, are functionally similar to the tactics employed by nonhuman primates in the sense that they are aimed at reducing the possible threat others pose to the dominant leader's social rank.

Our lab has pursued a program of research aimed at highlighting tactics dominant leaders might use to reduce threats to their social rank. In each of the studies described below, participates were assigned to a condition of unstable leadership (in which changes to the hierarchy were possible and thus their power could be lost), stable leadership (in which the hierarchy was inflexible and no changes to leadership could occur), or an egalitarian control condition (in which all participants had equal authority). Participants

in the leadership conditions were given the ability to make important decisions for their group, to direct the efforts of their group members, to evaluate their group members at the end of the session, and to give or withhold rewards (money or experimental credit) from them based on those evaluations.

The inclusion of the two leadership conditions allowed us to test the instability hypothesis. In the unstable leadership condition, the participant's social rank was not secure, so we expected dominant participants to worry about other group members rising above the participant in social rank. This situation thus pits against one another two conflicting motivations: the desire to protect one's own high rank within the group vs the desire to help the group achieve its goals. In each study, we presented participants with decisions that implicitly forced them to choose between protecting their own place at the top of the hierarchy, on one hand, and optimizing the task performance of the group, on the other hand. We were interested in which of the two motives participants would prioritize, and our dependent variables were designed to assess that prioritization. We predicted that high levels of dominance motivation would be linked with prioritizing one's own social rank over the performance goals of the group, particularly when the hierarchy was unstable.

We did not expect to see that same evidence in the stable leadership condition. In that condition, participants were assured that changes to the group hierarchy were not possible and thus their social rank was secure. Under those circumstances there would be little reason for even highly dominant participants to worry about their social rank. This would be similar to an alpha chimpanzee who has no other group members willing or able to challenge his alpha status. In the stable leadership conditions, therefore, we expected all participants—including those high in dominance—to prioritize the performance goals of the group. That is, in the absence of any salient trade-off between preserving their social rank and optimizing group performance, we expected participants to help the group perform as well as it could. High levels of prestige motivation were expected to cause leaders to prioritize the well-being of the group regardless of whether their social rank was stable or unstable, so we did not anticipate that group stability would moderate the effects of prestige motivation on leadership behavior.

Our studies thus allowed us to differentiate between the leadership strategies of those high in dominance vs those high in prestige. We hypothesized that high levels of dominance motivation would be associated with a tendency to respond to unstable leadership by prioritizing one's own power

over the goals of the group. In contrast, we expected high levels of prestige motivation to be associated with prioritizing the good of the group over one's own social rank. As explained earlier, for those high in prestige motivation, subverting the goals of the group could undermine their ability to receive freely conferred respect and deference from other group members. People who adopt a prestige strategy are concerned with maintaining positive relationships with group members. Subordinating other group members and subverting the goals of the group could damage those relationships. Thus, unlike leaders high in dominance motivation, those high in prestige motivation were expected to prioritize group performance goals, even if it meant jeopardizing their own high social rank.

In each study, we measured people's level of dominance motivation and prestige motivation via self-report. Dominance motivation was assessed with a set of items such as "I would enjoy having authority over people," "I enjoy planning things and deciding what other people should do," and "I like to give orders and get things going." Prestige motivation was assessed with items such as "I want to be an important person in my community," "I like to be admired for my achievements," and "I like to have people come to me for advice." Thus, whereas both measures reflect a desire for high social rank, they differ in their emphasis on authority and control (dominance) vs respect and admiration (prestige). The prestige items reflect freely conferred deference, whereas the dominance items do not. Confirmatory factor analyses on our data suggest that the two measures can be distilled into two separable and distinct (yet positively correlated) factors. In each of the studies described below, we entered participants' level of dominance and prestige motivation simultaneously into regression analyses to test for their independent effects. Thus, the findings reflect the unique association between participants' behavior and their levels of dominance and prestige motivation, both of which reflected continuous variables. It should be noted that, although we may sometimes describe findings as reflecting the behavior of dominance-oriented leaders or prestige-oriented leaders, this phrasing is not meant to imply that there are separate categories of leaders. Rather, findings reflect associations between people's behavior and their levels of dominance motivation and prestige motivation, which reflect positively correlated continuous variables. See Table 2 for a summary of findings from this program of research.

2.2.1 Demotion and Ostracism

One way a dominant leader might reduce threats posed by subordinates is by reducing their level of influence via demotion or, in extreme cases, by

Table 2 People High in Dominance Motivation vs Prestige Motivation Respond Differently to Situations That Threaten Their Social Rank

	Dominance	Prestige
Demotion and ostracism (Maner & Mead, 2010)	Leaders demote and ostracize talented group members who are perceived as a threat	Leaders embrace talented group members and view them as valuable allies
Hoarding information (Maner & Mead, 2010)	Leaders withhold information from the group as a way of maintaining their social rank	Leaders share information freely with other group members
Vigilance and control (Mead & Maner, 2012a, 2012b)	Leaders closely monitor talented group members as a way of reducing any threat to the leader's social rank	Leaders give freedom to talented group members so that they have the space to innovate and excel
Preventing subordinates from bonding (Case & Maner, 2014)	Leaders prevent top-performing subordinates from bonding and forming coalitions with other group members	Leaders encourage top-performing group members to form relationships with others
Matching people's skills to their roles (Case & Maner, 2016a)	Leaders assign talented subordinates to roles that are mismatched with their skillset to prevent them from excelling	Leaders assign talented subordinates to roles that are well matched to their talents

ostracizing them from the group. This would be similar to extreme competition for rank in nonhuman primates, in which demotion and ostracism are sometimes the outcomes of losing a dominance competition. If an alpha male chimpanzee succeeds in defending his powerful role from an upstarting beta male, for example, the relatively high-ranking subordinate may fall further down the hierarchy and might even suffer exclusion from the group (Nishida, 1983; Nishida & Hosaka, 1996).

Similar tactics are displayed by dominant human leaders. In two studies conducted by Maner and Mead (2010), participants were assigned to one of two experimental leadership conditions. In the stable leadership condition, the participant was told that his or her role was to help the group perform as well as it could on the task and was given decision-making power over the task. Additionally, the participant was told that he or she would have the opportunity to evaluate the subordinates and, on the basis of that evaluation,

distribute payment for being in the study in whatever way he or she thought was appropriate. The unstable leadership condition was identical with the exception that participants were also told that, depending on everyone's performance during the session, the participants' roles in the group could be reassigned. (No specific information was provided with regard to how roles would be reassigned or who would make that determination.) Therefore, only in the unstable leadership condition could the leadership role be lost and, as such, only in that condition might other participants realistically be perceived as a threat to the leader's social rank. A third group of participants were assigned to an egalitarian control condition in which all participants had the same social rank and decision-making authority, and in which payment for being in the study would be split evenly.

Participants were then told (in an offhand way) that one of the group members had participated in some of the lab's previous research, and the experimenter knew the person to be especially skilled at the task the group would be performing. The highly skilled subordinate was functionally similar to a beta male chimpanzee, in the sense that the subordinate was in a good position to threaten the leader's social rank within the group. Consequently, dominant leaders might perceive the highly skilled subordinate as a threat. The optimal strategy for enhancing group performance would be to embrace that person's skill and to give that person the opportunity to play a sizable and influential role in the task. This would be like a CEO rewarding a high-performing manager with extra responsibility in order to help the business succeed.

Dominant leaders, however, did just the opposite. In one study, dominant leaders who were in a position of unstable leadership assigned the skilled subordinate to a role within the group that carried almost no influence over a puzzle-building task. Rather than assigning the skilled person to play the role of "director" (who would provide instruction on the task) or "builder" (who would actually build the puzzle), dominant leaders assigned the skilled subordinate to the role of "timer" (who would simply time the work of the others with a stopwatch). Dominant leaders thus relegated the skilled worker to a position of little influence, while assigning less-competent people to carry out the task. Notably, this tendency was not observed in the egalitarian control condition. The tendency was also eliminated in the stable leadership condition. The fact that dominant leaders suppressed their subordinate only when the leader's social rank was unstable and could be lost underscores the function of the leader's behavior—to protect his or her social rank from being taken away by another group member.

This approach prevented the skilled subordinate from demonstrating his or her skill and, as a consequence, gaining social rank. Nevertheless, it was also a bad managerial decision in the sense that it undermined the group's ability to perform at its best. Thus, protecting the leader's social rank came at the likely expense of group performance.

In a second study that relied on the same experimental design, dominant leaders were given the opportunity to exclude a highly skilled subordinate from the group. After being assigned to experimental condition (unstable leadership, stable leadership, or egalitarian control), participants were then told that more people had arrived for the experiment than were needed to perform the group task. As a consequence, participants were given the opportunity to weigh in on which group member the experimenter should exclude from the task (the person would receive credit for their participation but then would be sent on their way). As in the previous experiment, participants were also informed that one of the group members was highly skilled at the group task. A second group member was described to the participant as relatively inept, thus providing a clear optimal target for exclusion from the group.

Participants interested in helping their group perform well would presumably exclude the inept group member and select the skilled group member to play an active role in the group task. Dominant leaders, however, did just the opposite. Under conditions of unstable leadership, dominant leaders chose to exclude the highly skilled worker and to include the inept worker. Although this behavior would presumably undermine group performance, it could help ensure that the skilled subordinate would not threaten the dominant leader's high social rank.

Did leaders high in prestige motivation—those with a strong desire for respect and admiration—behave as dominant leaders did? Quite the contrary. In contrast to leaders high in dominance motivation, those high in prestige motivation neither demoted nor ostracized the skilled group member. Instead, prestige-motivated leaders prioritized the success of their group: they chose to include rather than exclude the highly skilled subordinate in the group task and they assigned the subordinate to a relatively influential role within the group. This is consistent with the overall approach to leadership observed in highly prestige-oriented individuals—they tend to display prosocial behaviors likely to result in increased respect and admiration.

Thus, the pattern of results was very specific. Prioritizing one's own social rank over the good of the group was associated only with high levels

of dominance motivation, not high levels of prestige motivation, and the association with dominance motivation was observed only when the leader's social rank was threatened through instability (not when their leadership role was stable). The specificity of this pattern speaks to its underlying mechanism—the behavior of dominant leaders was caused by a desire to protect their social rank, even at the expense of the group as a whole.

2.2.2 Hoarding Information

Another strategy that dominant leaders may use to solidify their social rank involves controlling information flow throughout a group. Sharing information freely within a group can facilitate cooperation, promote cohesion, and enhance performance (Hinsz, Tindale, & Vollrath, 1997; Thomas, DeScioli, Haque, & Pinker, 2014). However, information is a source of power, so sharing it freely can reduce one's power relative to that of others and can jeopardize a leader's privileged social rank (Wittenbaum, Hollingshead, & Botero, 2004).

When faced with a trade-off between sharing information freely with one's group vs hoarding information, which approach do leaders take? Leaders in one experiment were faced with this trade-off. As the leader, participants were given access to privileged information (a set of clues) that would help the group perform a task. (Participants in the egalitarian control condition ostensibly were randomly assigned to have access to this information.) Participants were charged with deciding how much of the information to share with their group. They could share all of it, none of it, or any amount of information in between (Maner & Mead, 2010).

Findings showed that dominant leaders hoarded the information. They refrained from passing along the majority of the best clues to their group, instead keeping that information to themselves. Moreover, consistent with the hypothesis that this behavior was motivated by a desire to protect their social rank, the pattern was observed only when their leadership was unstable and could be lost. When their leadership position was secure, or when they were in an egalitarian group, even highly dominant leaders shared information freely with their group members.

In contrast to those high in dominance, those high in prestige shared information freely regardless of their status as leader (Maner & Mead, 2010). Apparently, unlike dominance, prestige motivation was associated primarily with a tendency to help the group perform as well as it could. This strategy is consistent with the core desire of prestige-oriented leaders—to be liked, admired, and respected.

2.2.3 Vigilance and Control

Around the year 400 BC, the Chinese general and military strategist Sun-Tzu famously said: "Keep your friends close, but your enemies closer." The wisdom behind this statement remains relevant today. For example, if a leader feels threatened by a particular group member, it behooves the leader to keep that person close because doing so allows the leader to closely monitor that person and ward off any threats they pose. This would not be unlike a CEO who, on feeling threatened by a top-performing mid-level manager, demands to see all of the manager's work and keeps close tabs on all of the manager's comings-and-goings. This is also a strategy employed by some high-ranking nonhuman primates. Alpha male chimpanzees are vigilant to subordinates that might be in a position to usurp their alpha status. The alphas closely monitor the behavior of rivals and intervene when those rivals behave in ways that jeopardize the alpha's position (de Waal, 1999; Nishida, 1983; Nishida & Hosaka, 1996).

Indeed, one recent line of research suggests that, when leaders high in dominance motivation see a top-performing group member as a threat, those leaders respond by maintaining close proximity to the group member—by keeping the enemy close (Mead & Maner, 2012a). This could serve to intimidate the subordinate and alert the leader to any imminent threats, allowing the leader to intervene to prevent the subordinate from ascending in rank.

In one study, participants were given the choice of working in the same room as a skilled subordinate or in a different room (Mead & Maner, 2012a). We told participants that working independently would optimize group performance. Despite this performance incentive, however, dominant leaders who were in an unstable position chose instead to work in the same room as their subordinate. This would serve to hamper group performance but ensured some level of control over the perceived threat. Notably, this same pattern was not observed when the dominant leader's position was stable or when the group was egalitarian. Nor was it observed among participants high in prestige motivation. Thus, as in the earlier studies, the penchant for bad behavior was seen only among those high in dominance motivation and only when their high social rank was threatened by instability within the hierarchy.

In another study, participants were allowed to choose a seating arrangement for a group task (Mead & Maner, 2012a). Conceptually replicating the pattern of behavior described in the last study, participants who were high in dominance motivation and who were faced with the instability of their role

chose to sit immediately next to a skilled subordinate. This pattern was observed only under conditions of unstable leadership, suggesting that participants sought proximity to the skilled subordinate as a way to monitor and potentially control the perceived threat.

Indeed, the role of perceived threat was confirmed in a third study (Mead & Maner, 2012a). After learning that they would fill the role of leader in an unstable hierarchy (vs an egalitarian control condition), and would work closely with a highly skilled subordinate, participants completed a measure of perceived threat: they indicated the extent to which they were worried that they might be outperformed by their partner. After providing this measure, participants were asked to arrange two seats by a workstation—one for themselves and one for the other participant. This provided an implicit measure of participants' desire for proximity: if the participants wanted to closely monitor, control, and potentially even intimidate the subordinate, the participants should have seated themselves close to the subordinate. Indeed, this was the pattern we observed. When faced with an unstable hierarchy, participants high in dominance motivation seated themselves close to the subordinate (approximately 5 in. away from their subordinate, as compared to approximately 25 in. in the egalitarian control condition). Moreover, the tendency for dominant participants to seat themselves close to the partner was statistically mediated by the measure of perceived threat. The more threatening participants perceived their partners to be, the closer they sat to them. Thus, dominant participants sought to keep their enemies close.

In contrast to leaders motivated by dominance, those motivated by prestige showed no evidence of closely monitoring a skilled subordinate. Instead, prestige-oriented leaders gave the subordinate free-reign to work unhindered in the tasks at hand. Unlike the desire for dominance, the desire for prestige caused leaders to prioritize the performance and well-being of the group over their own ability to maintain their high-ranking position. Thus, the two motivations—dominance and prestige—again diverged with respect to the behaviors participants displayed in a leadership context.

2.2.4 Preventing Subordinates from Bonding

"Divide et impera" is Latin for "Divide and rule" or "Divide and conquer." Many attribute this saying to Niccolò Machiavelli, who counseled that, by separating one's enemies, one gains a substantial competitive advantage. In the Art of War, for example, he suggested dividing enemy forces by planting

seeds of mistrust, thereby undermining the unity of enemy forces (Machiavelli, 1521/2001).

As it turns out, the strategy of dividing one's rivals extends back in time quite a bit further than Machiavelli, perhaps, even, to humans' last common ancestor, the chimpanzee. Indeed, the "Divide and conquer" strategy is enacted by our nearest extant relatives. Consider an alpha male chimpanzee whose social rank is being threatened by an ambitious beta. The beta might not pose much of a threat to the alpha on his own, but if he were to form a coalition with another lower-ranking member (eg, a gamma, the third in charge), the beta would be in a much better position to challenge the alpha. Although an alpha male can often hold his own against a beta who attempts to claim alpha status, his prospects of maintaining his social rank drop dramatically when the beta male recruits help from other subordinates. After all, there is strength in numbers.

The threat of coalition formation is what motivates alpha chimpanzees to engage in a behavior known as a "separating intervention" (de Waal, 1999; Nishida, 1983; Nishida & Hosaka, 1996). To prevent subordinates from forming a coalition, alpha males thwart instances of beta–gamma bonding: when they are caught grooming one another or even when they are just seen sitting beside one another, the alphas direct elaborate and threatening displays of their physical strength toward the two potential competitors and charge them. This sends the males fleeing in different directions, and helps the alpha keep the beta male from forming a strategic coalition with the gamma male (de Waal, 1999).

Might dominant human leaders act in a similar way, protecting their social rank by preventing subordinates from forming an alliance? Indeed, one recent line of research suggests that, like alpha male chimpanzees, dominant human leaders interested in protecting their power prevent talented subordinates from forming alliances with other group members, even when doing so detracts from the well-being of the group (Case & Maner, 2014).

In one experiment, when the hierarchy was unstable and their position of high social rank could be lost, dominant leaders limited the degree to which a talented subordinate could communicate with other group members (Case & Maner, 2014). Participants were given the opportunity to make decisions about how many instant messages would be passed back and forth by group members. Although dominant leaders allowed relatively unskilled subordinates to communicate freely, they prevented a highly skilled subordinate from communicating with the other subordinates. This is functionally similar to an alpha chimpanzee preventing a beta from getting close to the

gamma. Notably, dominant leaders did not limit communication when the leader's social rank was secure. Placing limitations on communication was observed only when the hierarchy was unstable, not when it was stable and not when leaders were in an egalitarian group.

In a second experiment, leaders sought to physically isolate a talented subordinate by placing him or her in a room alone, away from other group members (Case & Maner, 2014). Although participants were told that allowing all group members to work together face-to-face in the same room would enhance group performance, dominant leaders instead chose to situate a highly skilled group member by him or herself. The same treatment was not extended to less-skilled group members. And, again, the tendency to sequester the skilled group member was observed only when the dominant leader's social rank was threatened by instability in the hierarchy.

In a third experiment, leaders went beyond simply limiting interaction among subordinates, specifically preventing a talented individual from socializing with others on a close, interpersonal level (Case & Maner, 2014). Participants were given the opportunity to select a particular approach for group members to use in performing a task. Participants were asked to choose between (a) a task-oriented approach, in which the interaction between group members would be limited to the task itself and (b) an interpersonally oriented approach, in which group members would get to know one another personally. With the task-oriented approach, discussion would focus on the task and would not stray. There would be little opportunity for social bonding. In the interpersonally oriented approach, participants would have the opportunity to share personal information and form friendships. Notably, the two approaches were described to participants as being equivalent in terms of their effectiveness. If dominant leaders sought to prevent their subordinates from bonding, they should select the task-oriented approach, and, indeed, this is exactly what we saw. When the hierarchy was unstable, dominant leaders had their most-skilled subordinates adopt a task-oriented approach, thus preventing those subordinates from forming friendships or alliances. This same pattern was observed only when the leader's social rank was unstable.

Finally, in a fourth experiment, dominant leaders opted to pair a skilled subordinate with a partner who ostensibly had a very different personality style, and who therefore would be unlikely to form a positive relationship with the skilled subordinate (Case & Maner, 2014). Participants were told that people generally have one of two different personality styles (red or blue). Participants were told that people with the same personality style tend

to get along well and form friendships easily. In contrast, people with different personality styles tend not to like each other very much and are unlikely to form friendships. Dominant leaders under conditions of unstable social rank chose to match skilled subordinates with partners who had a different personality style, thus effectively preventing them from bonding socially or forming an alliance. As in the previous studies, attempts on the part of dominant leaders to prevent subordinates from bonding were observed only when their social rank could be lost. When their rank was secure, even highly dominant leaders tended to match group members with similar partners, thus increasing the likelihood of pleasant social interactions and greater group cohesion.

These findings confirm that, like alpha chimpanzees, dominant leaders who feel threatened by other high-ranking group members seek to isolate those individuals in order to prevent them from forming alliances. Although this serves as a means of protecting their social rank, it also has potential for substantially undermining the functioning of the group. Indeed, the success of many groups depends on how well group members work together and coordinate their actions. Cooperation and social cohesion play a critical role in group behavior and exert positive effects on group performance (Jehn & Shah, 1997). When group members feel closely connected with one another, they tend to be more committed to their group's goals (De Cremer, 2002). Consequently, a critical function served by leaders is facilitating a sense of cohesion among group members (Van Vugt, 2006), and this usually means promoting prosocial relationships and positive forms of social bonding (De Cremer & Van Vugt, 2002; Van Vugt & De Cremer, 1999). Social closeness among group members promotes improved performance through increasing both cooperation and group commitment (Jehn & Shah, 1997). Nevertheless, dominant leaders suppressed, rather than encouraged, positive relationships among subordinates when doing so enabled them to protect their high-ranking position within the hierarchy. This is likely to undermine the cohesive fabric within the group.

Whereas leaders high in dominance motivation sought to divide and conquer their subordinates, leaders high in prestige motivation behaved in just the opposite way in those experiments. Rather than sequestering and isolating their subordinates, they encouraged face-to-face social interaction and positive forms of social bonding. They apparently recognized that highly skilled subordinates are in a good position to serve as role models for other group members, and placed them in close contact with one another to facilitate positive forms of group interaction. Prestige-oriented leaders in the

unstable conditions adopted this strategy even at the possible expense of their own social rank, because highly skilled subordinates are in a position to receive respect and perhaps even rise into positions of leadership. Nevertheless, for prestige-oriented leaders, the good of the group outweighed any personal desire for high social rank.

2.2.5 Misaligning Subordinate Skills and Group Roles

Although organizations, teams, and other groups perform best when their members fill roles that match their individual skillsets, the Organisation for Economic Co-operation and Development recently reported that, spanning a range of organizational contexts, employees often are poorly matched to the tasks they are required to perform (Quintini, 2011). Indeed, many workers possess skills that are underutilized by their employer and, at the same time, lack the skills required for their position (Green & McIntosh, 2007; Mavromaras, McGuinness, & Fok, 2009). This type of misalignment negatively affects the individual (Allen & van der Velden, 2001; Vieira, 2005) and the group as a whole (Quintini, 2011).

Because group success is hindered when individuals' skills are misaligned with their role in the group, leaders typically strive to ensure that subordinates perform tasks that are congruent with their skillset. For instance, some managers invest in extensive aptitude testing and skill-discovery interviewing so that workers can be assigned to positions that make optimal use of their abilities. Despite such efforts, employee skill–role misalignment persists, affecting a large portion (5–50%) of the labor force across the globe (Quintini, 2011). If such misalignment is harmful to group success, why do so many employees find themselves inhabiting roles that are mismatched with their skillset?

Our research suggests that the misalignment of skills and roles could reflect strategic attempts by managers to keep skilled group members from displaying their talents too strongly, thus preventing those skilled subordinates from accruing too much influence within the group (Case & Maner, 2016a). Indeed, yet another strategy enacted by dominant leaders as a means to preserve their social rank involves routing talented subordinates into group roles that are misaligned with their skillsets. In so doing, a leader either is able to conceal that talented individual's skills from the rest of the group (Case & Maner, 2016b) or, more menacingly, is able to sandbag the talented group member's performance, thus preventing the subordinate from climbing in rank via prestige.

In two recent experiments (Case & Maner, 2016a), leaders were given the opportunity to assign a highly skilled group member to a role that was closely aligned vs misaligned to the person's skillset. (Participants in the egalitarian control condition ostensibly were randomly assigned to make that decision for their group.) Dominant leaders atop social hierarchies marked by instability were expected to assign talented group members to roles that were at odds with their expertise. Leaders high in prestige, however, were not expected to mismatch subordinates skills and roles, regardless of whether or not their leadership position was unstable.

In the first study, participants were provided with all their (purported) group members' overall SAT scores and information about their majors (Case & Maner, 2016a). One of those group members was academically gifted, particularly with respect to verbal ability—the person was described as double majoring in English literature and creative writing. Thus, the academically gifted group member would be best able to showcase his or her talents if assigned to a group role that would make use of his or her verbal skills. Participants were then given the opportunity to assign this group member to either a difficult math task or a difficult verbal task.

When confronted with the possibility of losing their social rank, dominant leaders placed the skilled—and thus potentially threatening—English and creative writing double major into a role that required that individual to perform a difficult math task, rather than a verbal task that would make better use of the person's talents. This pattern suggests that dominant leaders might handicap the performance of subordinates who pose a threat to their social rank. Indeed, dominant leaders did not assign the skilled individual to a mismatched role when their rank was secure and did not assign a mismatched role to less-skilled group members. Moreover, leaders high in prestige did not misalign the talented subordinate's role with his or her skillset, regardless of the stability of their social rank.

In a second study using a similar method, participants were given the opportunity to assign a high-achieving, analytically skilled subordinate to a group role that would make use of either analytic abilities or creative abilities (Case & Maner, 2016a). Importantly, participants were explicitly informed that individuals tend to perform best when assigned to roles that match their skillset. Thus, participants were aware that, by misaligning the roles of their group members, they would be harming the performance of that individual and, consequently, the group as a whole. Nevertheless, dominant leaders routed the high-achieving, analytically skilled group member into the creative role, despite knowing that matching group member skills

and roles was best for enhancing group performance. The tendency to misalign the subordinate's role was associated with dominance motivation, not prestige motivation, and only when the leader's social rank was tenuous. Moreover, that tendency was directed only toward a skilled subordinate, not toward less-skilled (and, thus, less threatening) subordinates. These findings converge to show that the misalignment of skilled group members' roles reflected the leader's desire to safeguard his or her social rank.

2.2.6 Risk Aversion

The desire to protect one's social rank also has implications for basic forms of decision making. Theory and evidence suggest that, in general, possessing high social rank should promote an orientation toward disinhibition and risk-taking (Keltner et al., 2003). This is consistent with the idea that, because being in a high-ranking position allows substantial autonomy and provides people with the means of achieving their own goals, it leads people to adopt an agentic orientation toward action (Galinsky, Gruenfeld, & Magee, 2003). Indeed, evidence suggests that power does lead people to become risky. For example, in one set of studies, people who had a chronically high sense of their social rank, or people for whom high social rank had been experimentally manipulated, displayed optimistic appraisals of potential risk, were more likely to report engaging in a risky form of sexual behavior (engaging in unprotected sex), and were more likely to behave in a risky fashion during a negotiation—people with a mind-set of having high social rank were more likely than those who lacked such a mind-set to divulge their interests in the negotiation (Anderson & Galinsky, 2006).

However, although possessing high social rank might provoke a general orientation toward risk-taking, taking risks can also jeopardize a person's social rank. Consider a sitting president who, prior to possible reelection, goes out on a limb with a controversial administrative decision. Such a risk could end up losing him the election, which may be why many presidents display relatively conservative behavior—rather than risky behavior—prior to an election (Tetlock, 1981). Possessing high social rank might lead people to avoid risks as a means to maintain their position within the hierarchy (Isen & Geva, 1987). Thus, some individuals may display conservative choices aimed at retaining their current position in the hierarchy. This would constitute an important exception to the conventional wisdom that power begets risk.

Moreover, the tendency to display relatively conservative behavior should be associated with high levels of both dominance and prestige

motivation. Many of the behaviors highlighted in this chapter involved negative consequences for the group and, as such, those behaviors were associated with high levels of dominance motivation but not prestige motivation. Because behaving in a risk-averse way is not inherently bad for the group, leaders high in prestige motivation, as well as those high in dominance motivation, might be expected to display a penchant for risk aversion when they feel their social rank is potentially in jeopardy.

Indeed, in one experiment (Maner, Gailliot, Butz, & Peruche, 2007), participants were placed into a position of high social rank over a group of subordinates (or into an egalitarian control condition). Nothing explicit was said about the stability of the hierarchy, so any chronic concerns about the potential loss of one's social rank may have been active (see Case & Maner, 2014). Participants were then given the opportunity to wager some or all of the $5 they had earned for taking part in the study on a subsequent cognitive task. If they performed well on the task, they would triple the amount of their wager. If they did not perform well, they would lose their wager. Results demonstrated that participants low in dominance and prestige motivation displayed the usual increase in risk-taking when placed into a position of high social rank (vs egalitarian control): they wagered a higher amount on the task. Participants high in those motivations, however, made more conservative decisions when placed into a position of high social rank and wagered less on the task.

In a second experiment (Maner et al., 2007), the stability of the hierarchy was manipulated. After being assigned to a position of unstable high social rank, stable high social rank, or egalitarian control, participants completed the balloon analog risk task, a well-validated behavioral measure of risk-taking (Lejuez, Aklin, Zvolensky, & Pedulla, 2003). Under conditions of instability (ie, their social rank could be lost), leaders high in dominance and prestige motivation became especially conservative in their decisions, consistent with a desire to maintain the status quo. When the hierarchy was stable, in contrast, participants regardless of their level of dominance or prestige motivation responded to high social rank by making relatively risky decisions.

These findings suggest that the desire to maintain their social rank within a group can lead both dominance- and prestige-oriented individuals to display forms of conservative decision making. The current research also may help explain the presence of seemingly discrepant findings in the literature, with some studies suggesting riskiness among high-ranking people (Anderson & Galinsky, 2006) and others suggesting conservative choices among those with high social rank (Winter & Barenbaum, 1985).

2.3 From Me vs You to Us vs Them

The psychology of social hierarchy is fundamentally intertwined with the psychology of intergroup contact and competition. Intergroup competition has been a highly influential component of social life throughout evolutionary history (Neuberg, Kenrick, & Schaller, 2011). Rival groups posed a threat not only to the security of a group's resources but also to people's physical safety. As such, it was imperative that group members banded together to combat external threats posed by rival out-groups.

Evidence suggests that the presence of an out-group increases the tendency for group members to band together and cooperate. For example, in one set of studies using a public goods task, the presence of a rival out-group increased men's willingness to forego short-term selfish motives in favor of altruistic group contributions (Van Vugt, De Cremer, & Janssen, 2007).

This process of banding together has significant implications for the types of behaviors leaders tend to display. Leaders are well positioned to coordinate the actions required to compete successfully against out-groups. In service of intergroup competition, leaders have played a key role in maintaining defenses, coordinating people's efforts, and managing group resources (Van Vugt, 2006; see also Van Vugt & Spisak, 2008). In short, leaders are essential for competing successfully with and defending against out-groups.

Might the presence of a rival out-group mitigate some of the selfish leadership behaviors observed among leaders high in dominance motivation? Does intergroup competition cause even the most power-hungry leaders to put the needs of the group ahead of their own desires? Indeed, several studies suggest that the presence of an out-group alters the mind-set of even highly dominant leaders. Building on work suggesting that intergroup competition shifts people's mind-set from in-group-level comparisons (me vs you) to intergroup-level comparisons (us vs them; Correll & Park, 2007; Ellemers, Wilke, & Van Knippenberg, 1993), several studies have shown that, in the presence of intergroup rivalry, even highly dominant leaders prioritized group success over their own social rank (Maner & Mead, 2010; Mead & Maner, 2012a, 2012b).

In one study, for example, although dominant leaders suppressed a skilled subordinate by relegating him or her to an uninfluential role in the group, that behavior disappeared when participants were told that their group was in competition with a rival out-group (Maner & Mead, 2010). A second set of studies investigated whether the presence of a rival out-group would mitigate dominant leaders' tendency to closely monitor a highly skilled

subordinate (ie, the tendency to keep their enemy close). Recall that dominant leaders in unstable hierarchies tend to keep close tabs on top-performing group members as a way to reduce potential threats those group members might pose. Dominant leaders chose to sit close to and work in the same room with a top-performing subordinate, even though giving the person more space was better for group success (Mead & Maner, 2012a). The presence of a rival out-group, however, eliminated those behaviors. Highly dominant leaders gave even the most skilled and thus potentially threatening group member the space and autonomy needed to work freely on tasks. These results suggest that intergroup competition reprioritizes leaders' goals, from personal power to group success.

This reprioritization of goals was also reflected in leaders' perceptions of their fellow group members. Two experiments tested whether intergroup competition caused leaders to perceive in-group members as allies rather than threats (Maner & Mead, 2010). In one experiment, dominant (but not prestige-oriented) leaders reported that they perceived a top-performing subordinate as a threat. However, the presence of intergroup competition significantly decreased those perceptions. In another experiment (Maner & Mead, 2010), the presence of intergroup rivalry caused leaders to perceive a highly talented in-group member as affiliative and cooperative. These findings suggest that, when there is a rival out-group, not only do leaders behave relatively more in line with group goals, they also have relatively more positive perceptions of in-group members, even those who might otherwise be perceived as threats. Thus, in the presence of intergroup competition, rather than viewing group members as potential threats to be suppressed, dominant leaders came to see those same group members as allies to be embraced. In sum, intergroup competition can cause even the most dominant leaders to change their perceptions and behavior in ways designed to promote group success, although doing so might mean decreasing their own social rank.

2.4 Summary

Leaders play a critical role in group behavior. Not only do leaders help group members coordinate with one another, but they also help their group establish and prioritize their goals and pursue the goals that are most important to the well-being of the group. High social rank is conferred to leaders under the (often implicit) social contract that they will use their influence to pursue actions that benefit the group (Boehm, 1999; Van Vugt, 2006). Although

leaders are able to use their elevated positions to help their groups achieve beneficial outcomes, leaders who are motivated primarily by dominance may cause their groups to fail by prioritizing their own personal social rank over the goals of their group.

Evolutionary theories that differentiate between dominance and prestige provide a useful conceptual framework for understanding when and why particular leaders behave in selfish ways that many would consider corrupt. Several studies suggest that leaders high in dominance motivation—those who seek to attain social rank through the use of coercion and intimidation—selfishly prioritize their social rank over the well-being of the group. Like dominant members of other nonhuman primate species, dominant people appear to care more about maintaining their social rank than about leading their group toward desired goals.

Leaders high in prestige motivation, on the other hand, are motivated primarily by the desire for respect and admiration. They seek to attain high social rank that is freely conferred by others in the group. As a consequence, prestige-oriented individuals tend to behave in ways that benefit the group and its members, because those behaviors are likely to foster strong feelings of respect and appreciation. Indeed, participants high in prestige motivation did not sacrifice the good of the group in favor of their own power, as those high in dominance did. If anything, when confronted with threats to their social rank, they responded by increasing their tendency to support the group (eg, by encouraging connections between top-performing role models and other group members; Case & Maner, 2014). The motivations that drive people to attain social rank thus play a profound role in guiding their leadership behavior and the extent to which they prioritize the goals of the group over their own social rank.

These studies also provide important information about the situational factors that precipitate selfish leadership behavior. In contrast to the dictum that "absolute power corrupts" the strongest evidence for selfish behavior was observed when participants' leadership position was unstable and could be lost, not when it was absolute. In addition, leadership behavior was strongly affected by the presence vs absence of a competing out-group. In the absence of an out-group, dominant leaders displayed a penchant for self-ishness and an orientation toward viewing top-performing subordinates as enemies to be suppressed. In contrast, when one's group was competing against an out-group, even dominant leaders prioritized the success of their group and tended to view top-performing subordinates as allies to be embraced.

3. DUAL-STRATEGIES THEORY: FUTURE DIRECTIONS AND IMPLICATIONS FOR THE SOCIAL PSYCHOLOGY OF HIERARCHY

Section 3 considers future opportunities for the development of theory and research. The existing literature provides a useful conceptual framework for further work aimed at differentiating between the strategies of dominance and prestige and identifying their implications for group behavior.

3.1 Identifying Additional Facets of Dominance and Prestige

Research should continue to develop theory by identifying behavioral, physiological, and cognitive facets of dominance and prestige. For example, recent work has differentiated dominance from prestige by examining people's vocal pitch (Cheng, Tracy, Ho, & Henrich, 2016). In that research, participants interacted in a leaderless group in which there was potential for each person to try to attain social rank and exert influence. Participants who adopted a dominance-oriented approach and were perceived by other group members as using dominant tactics during the interaction tended to modulate their voice by deepening their pitch in the first few minutes of the interaction. This same pattern of vocal pitch change was not observed among group members perceived as being high in prestige. Participants who adopted a prestige-oriented approach did not lower their vocal pitch as a way of exerting influence. The pattern observed among dominant group members is consistent with a sizable evolutionary literature suggesting that vocal pitch regulates dominance competitions among both human and nonhuman animals (eg, Puts, Jones, & DeBruine, 2012). These findings confirm that humans use transient vocal changes to track, signal, and coordinate hierarchical relationships.

Future investigations would profit from examining more directly the inner psychological states associated with dominance and prestige. Identifying specific cognitive and affective processes that differentiate the two strategies is a useful goal. For example, some existing work suggests that dominance and prestige are linked with different facets of pride (Cheng et al., 2010). Whereas dominance is associated with hubristic pride (characterized by arrogance and conceit), prestige is instead associated with authentic pride (characterized by feelings of accomplishment and success).

Dominance and prestige are likely to be associated with other affective and cognitive processes, as well. For example, it is well established that

people's motivations shape the way they attend to, remember, and categorize social stimuli (eg, Maner, Miller, Moss, Leo, & Plant, 2012). To the extent that dominance and prestige strategies involve different motivations, they may be associated with different cognitive attunements and biases. For example, whereas people high in dominance may be inclined to view others as harboring competitive and threatening interpersonal intentions, those high in prestige may instead be inclined to see others as possessing more prosocial intentions (cf. Maner et al., 2005; see also Kunstman & Maner, 2011). And although dominant individuals may display relatively self-focused patterns of attention, those high in prestige, because they rely on the admiration of others, may instead display other-focused patterns of attention. Future research would benefit from testing these kinds of hypotheses and delving more deeply into cognitive and affective processes that define the different strategies for attaining social rank.

Given the link between testosterone and dominance behaviors (Mazur & Booth, 1998), research would benefit from identifying clearly the potential association between testosterone and the deployment of dominance-based strategies for rank ascension. One study provided evidence suggesting that prestige was inversely related to testosterone levels, whereas dominance was statistically unrelated to testosterone (Johnson et al., 2007). However, those findings are best considered preliminary, as the sample size in the study was relatively small ($n = 43$), the sample included only men, and the researchers only examined basal hormone levels. Studies that examine reactive changes in testosterone may yield additional insight into the endocrinological underpinnings of dominance and prestige (see Maner, Miller, Schmidt, & Eckel, 2008).

3.2 Additional Moderating Variables

Although there are stable individual differences in the extent to which people adopt a relatively more dominance- vs prestige-oriented approach, all people possess a capacity for both dominance and prestige. Evolutionary perspectives imply that, given a particular adaptive goal such as attaining social rank, people possess the capacity for pursuing multiple strategies aimed at achieving the goal (Gangestad & Simpson, 2000). What strategy people choose depends on aspects of both the person and the social context (Kenrick et al., 2002). Whether people pursue a dominance- vs prestige-oriented strategy should depend on an array of factors including those in the situation (eg, stability of the hierarchy, prevalence of intergroup

competition; Maner & Mead, 2010) and those in the person, such as a person's physical formidability (Sell, Tooby, & Cosmides, 2009), level of testosterone (Mazur & Booth, 1998), or level of social anxiety (Maner, Gailliot, Menzel, & Kunstman, 2012).

Although a person's physical attributes may seem to have little to do with his or her leadership potential in the modern world, physical strength (or formidability) may be associated with the tendency to behave in dominant ways. For example, evidence suggests that physical formidability is associated with aggression and antisociality (Isen, McGue, & Iacono, 2015) and leads people to see potential competitors as easier to dominate (Fessler, Holbrook, & Gervais, 2014). One might therefore hypothesize that formidability would lead people to adopt a dominance-oriented, rather than a prestige-oriented strategy, for attaining social rank. On the flip side, traits associated with a tendency to affiliate or to behave in prosocial ways might be associated with adopting a relatively prestige-oriented approach. Being high in need to belong, for example, might lead people to concern themselves with liking and respect from others, both hallmarks of prestige.

Aspects of the situation also may play an important role in which type of rank-ascension strategy people adopt. For example, some groups possess leveling mechanisms—institutionalized means of reducing the presence of steep hierarchy and mitigating the influence of overly ambitious upstarts (Boehm, 1999). The absence of leveling mechanisms should increase the likelihood that people adopt a dominance strategy for attaining social rank, because dominance is consistent with a large power gap between those at the top of the hierarchy vs those at the bottom. In contrast, the presence of leveling mechanisms, such as norms that promote punishment or ostracism for those who become too dominant, is likely to encourage people to adopt a prestige-oriented approach (Henrich & Gil-White, 2001). In relatively flat hierarchies, prestige operates more effectively as a means of regulating social rank because prestige-oriented leaders are more comfortable than dominance-oriented leaders are with limitations on their social rank and level of power within the group. Whereas dominance-oriented leaders generally want to increase the power gap between themselves and others, prestige-oriented leaders work well within groups characterized by a narrow gap between leaders and followers and in which leadership is limited to the domains in which a person has particular expertise or knowledge (Boehm, 1999; Van Vugt et al., 2008).

Different groups have hierarchies that are based on different character-istics, and those characteristics may have important implications for the extent to which people adopt dominance- vs prestige-oriented strategies. One important factor may be whether a hierarchy is based largely on control over resources and capacity to bestow reward or inflict punishment, on one hand, or on the extent to which a person possesses valuable skills and knowl-edge, on the other hand (see Fast, Halevy, & Galinsky, 2012; Hays & Bendersky, 2015). A corporate hierarchy based on people's control over finances, for example, might incline people to take a dominance strategy for rising to the top, whereas an academic hierarchy based on research out-put and public acclaim might instead shift people in the direction of adopting a prestige strategy. Research would benefit from investigating further the contextual factors that affect people's pursuit of social rank.

The time course over which hierarchies emerge provides a useful avenue for future research, as well. Both strategies have been shown to predict social rank in relatively short interactions among strangers (Cheng et al., 2013). Dominance strategies, in particular, may be effective in short-term interper-sonal interactions, because without extensive knowledge about a person's abilities, their level of dominance can be mistaken for a high level of exper-tise (Anderson & Kilduff, 2009b). Moreover, over time, a person's initial social rank could be solidified through continued interactions that strengthen any social rank differences (Kilduff & Galinsky, 2013). However, groups in which members attain extensive exposure to one another's abil-ities, and in which those abilities contribute in salient ways to group success, might over time reward those abilities with prestige. In such groups, adopting a prestige-oriented approach over longer periods of time may result in high social rank. We would hypothesize that, relative to dominance, pres-tige is more likely to emerge as important in longer, sustained interactions among group members.

3.3 The Pitfalls of Prestige

Much of the research described in this chapter paints a rather magnanimous portrait of people high in prestige motivation. In our lab's previous work, those high in prestige tended to support their group and they behaved in ways that were consistent with a prioritization of group goals. Prestige-oriented leaders generally eschewed selfishness in favor of helping their group.

Nevertheless, there are likely to be circumstances in which adopting a prestige strategy proves counterproductive and potentially damaging to the group. For example, because it reflects an other-oriented approach to leadership, prestige-oriented leaders are likely to encourage other members of an organization to innovate and think creatively. However, some circumstances demand quick and decisive decision making and, under those circumstances, dominant leaders may perform better than prestigious ones. Indeed, groups that find themselves in conflict with other groups (eg, in wartime) or that find themselves in especially competitive markets tend to prefer more dominant leaders, presumably because those leaders are able to act decisively and to enforce those decisions through coordinated action (Lausten & Petersen, 2015). Thus, some contexts, such as the presence of intergroup conflict, may evoke preferences for a dominance-oriented, rather than prestige-oriented, approach to leadership.

People who are focused on using prestige to rise in social rank may also display particular tendencies that reduce their effectiveness as leaders. For example, because such individuals show strong concern for the regard of others, they may avoid behaviors that are unpopular, even when those behaviors reflect the best course of action for the group. For example, leaders often find themselves in the position of needing to make decisions that others dislike, but that are designed to benefit the well-being of the group as a whole. Laying off employees and streamlining the workforce often brings criticism and conflict, but sometimes those actions are necessary for ensuring the long-term viability of an organization. It is possible that, due to their desire for social liking, prestige-oriented leaders might have trouble making unpopular decisions. Indeed, when leaders high in prestige orientation are faced with making public decisions—decisions to which their subordinates are privy and thus could judge them on—those leaders go against their initial, gut response and instead pander to the opinions of their group. In contrast, when making decisions that are private and thus unknown to subordinates, prestige-oriented leaders make decisions that are in line with their own, initial choices (Case & Maner, 2016b).

Because prestige involves maintaining positive relationships with other group members and relies largely on interpersonal liking, prestige-oriented leaders might also have trouble giving negative feedback. Giving other people negative feedback, even if the feedback is meant to help the person and ultimately enhance their well-being, may be difficult for prestige-oriented leaders who are concerned with preserving positive social relationships. Delivering negative feedback could be perceived as potentially damaging

one's relationships with other group members, and thus prestige-oriented leaders might opt for avoiding that kind of difficult conversation. Future research would profit from examining this, and other possible instances in which adopting a prestige strategy might produce undesirable behaviors that harm the group.

3.4 Rising Through the Ranks

Much of the research recounted earlier in this article describes the implications of dominance and prestige among those who have risen to a position of high social rank. However, contrary to the conventional wisdom that "power corrupts," we suggest that, independent of wielding power, it is the willingness to use selfish strategies for attaining social rank—a hallmark of dominance motivation—that serves as a primary source of corruption. Indeed, because lower-ranking individuals do not hold positions of leadership in which they are held as accountable for acting in the interest of their group, they may not face the same tension when deciding whether to act in self-interested vs group-oriented ways. As such, the rank-ascension strategies enacted by people who lack social rank have the potential to be particularly antisocial.

One recent set of studies suggests that, when they do not possess high social rank, people high in dominance are willing to undermine the social order of their group as a means to ascend through the hierarchy (Case, Mead, & Maner, 2016). In those studies, participants were assigned to an egalitarian (control) condition, a position of high social rank, or a position in which social rank had not yet been determined. As in previous work, participants in the egalitarian control condition did not hold elevated social rank over others, nor could they acquire high social rank. In the high social rank condition, participants were placed in a leadership role over other group members. In contrast to those other conditions, participants in the undetermined social rank condition did not hold a position of leadership—no group member did—but there was the potential for any group member to become the leader during the course of the study.

Group members across all conditions were tasked with making choices for their group that could either promote group success or undermine group functioning. Some degree of social dysfunction within the group was perceived by participants as potentially helping them rise through the ranks. Consequently, by selecting the strategy that would disrupt the group, participants in the undetermined social rank condition could increase their

chances of ascending into the leadership role. Thus, in the undetermined social rank condition, dominance-oriented individuals were expected to enact antisocial and even conflict-inducing strategies aimed at increasing their social rank.

Consistent with those predictions, dominant people who lacked social rank worked to upset the social order of their group. For instance, dominant people who lacked social rank supported an unstable rather than a stable hierarchy, even though a stable hierarchy was described as being better for optimizing group outcomes. They also disrupted communication among other group members. Moreover, dominant individuals who wanted to rise in social rank went so far as to spread negative gossip about their group members, thus demonstrating a willingness to instigate social conflict among group members. When dominant individuals were part of hierarchies that did not allow them to ascend or fall in rank, they did not employ such tactics. Additionally, in contrast to dominant individuals, prestige-oriented group members did not employ antisocial strategies aimed at ascending in rank; if anything, prestige-oriented individuals responded to a lack of social standing by working to facilitate smooth group functioning.

Thus, although most of the extant research on the corrupting nature of power has focused on how those with elevated social rank might work to maintain their influential positions, some recent work demonstrates that corruption may also precede power, particularly when corruption is seen as a means of acquiring high social rank. Indeed, when faced with the potential to ascend in rank, those with a penchant for dominance undermined group functioning and worked to generate conflict as a means to facilitate their own rise in power. Future research would benefit from investigating the situations that give rise to different rank-ascension strategies among group members with a dominance vs prestige orientation.

3.5 The Psychology of Followership

Virtually all extant empirical research on dominance and prestige has focused on those who succeed in pursuing strategies that help them attain and maintain high social rank. This is consistent with much of the social psychological literature on power, in that such studies are usually characterized by a focus on people at the top of the hierarchy, rather than at the bottom. Much less work has focused on the psychology of followership (for an exception, see Van Vugt et al., 2008; cf. Kay et al., 2007). What it is like to be a low-ranking

member of a group in which the behavior of higher-ranking individuals is characterized by dominance vs prestige?

There are reasons to hypothesize that being in a group whose leaders adopt a prestige-oriented approach generally leads to more positive outcomes than being in a group with dominant leaders. Prestige is freely conferred, and prestige-oriented leaders are very concerned with how they are perceived by other members of the group. This should set the stage for a relatively prosocial environment in which even relatively low-ranking group members might experience a sense of empowerment. Indeed, it is through their own willful giving of respect and admiration that their leaders are able to exert influence. This sense of empowerment experienced by followers is likely to be associated with positive consequences such as optimism, a sense of control, and positive health outcomes.

Dominant leaders are interested in increasing the social rank gap between themselves and other members of the group (Maner & Mead, 2010). This opens followers up to being exploited (Van Vugt, 2006). One might hypothesize that being low in a dominance hierarchy would create a sense of hopelessness, and would be associated with a number of adverse psychological and health outcomes (cf. Miller, Chen, & Parker, 2011). Being dominated by others might also generate a tendency to fearfully avoid social interactions, particularly those with higher-ranking individuals. Dominant individuals can display a penchant for aggression, anger, and hostility, especially toward those who are perceived as a threat. Thus, there are significant risks associated with confronting high-ranking dominant group members. Such confrontations could spell danger for low-ranking individuals, so they might try to avoid higher-ranking individuals or to readily express their deference (eg, lowering their gaze, cowering; Öhman, 1986).

Examining more carefully the psychology of followership is an important research goal for several reasons. First, far more people lack high social rank than possess it. The nature of hierarchy is such that groups take on the form of a pyramid, with most people being toward the bottom of the hierarchy. Thus, it is important to understand the psychology of followership, in part because it characterizes the vast majority of the world's population. Second, having high social rank can be conceptualized as a fundamental human goal. Lacking social rank, as one does when one is subordinated, can reflect an important threat. Threatening a person's basic goals can have profound effects on a range of psychological outcomes. From the perspective that "bad" often is "stronger" than good (Baumeister, Bratslavsky,

Finkenauer, & Vohs, 2001), being low in social rank may have psychological consequences that are even more profound than those of being high in social rank. Third, followership is not simply the opposite of leadership. There should be distinct psychological mechanisms designed to deal with being a subordinate group member, and those mechanisms should operate differently depending on whether those high up in the hierarchy behave in ways marked by dominance vs prestige. Subordinates, for example, may display behaviors designed to gain proximity to highly prestigious group members (Henrich & Gil-White, 2001) but to avoid highly dominant group members (Öhman, 1986). Moreover, the types of behaviors low-ranking individuals display in order to rise through the hierarchy might depend on whether those at the top are prestige- vs dominance-oriented. Because dominant leaders attempt to suppress those who challenge them, followers may be more willing to display their attempts at rising through a prestige hierarchy than a dominance hierarchy.

3.6 Sex Differences

One question that often is raised about work on social hierarchy—especially work that takes an evolutionary perspective—involves the presence of sex differences. There is often a presumption that while men display strong interest in striving for high social rank, women display weaker interest in rising through group hierarchies. This presumption is consistent with a wealth of evolutionarily inspired research suggesting that, relative to the females of many species, males tend to reap greater reproductive rewards from possessing high social rank (Ainsworth & Maner, 2012, 2014; Archer, 2009; Buss & Schmitt, 1993; Wilson & Daly, 1985).

Nevertheless, dominance and aggression are not exclusively the purview of males. Even female chimpanzees sometimes use aggression and intimidation as a way of fighting for alpha status (de Waal, 1999). There is also evidence that, when faced with heightened levels of intrasexual competition, women respond with heightened aggression, just as men do (Moss & Maner, 2016). None of the studies our lab has conducted to elucidate differences between dominance and prestige has revealed evidence for sex differences. A similar lack of evidence for sex differences has been found in other labs (eg, Cheng et al., 2013).

One possible explanation for such findings is that, although men may have a lower threshold for having their rank-striving motives activated, both men and women possess similar mechanisms designed to help them achieve

social rank. Once activated, both men and women display a capacity for adopting either dominance- or prestige-oriented approaches to attaining high social rank. Further research would benefit from identifying circumstances in which sex differences in social rank-striving strategies do and do not emerge. Many previous investigations have used same-sex groups (eg, Case & Maner, 2014; Cheng et al., 2013). Thus, one potentially useful factor to consider is whether different findings emerge in same-sex vs mixed-sex groups.

3.7 Intersections Between Dominance and Prestige and the Broader Social Psychological Literature on Hierarchy

Social psychological research has focused on several different kinds of hierarchies, including those based on social class (Stephens, Markus, & Fryberg, 2012), gender (Sidanius, Pratto, & Bobo, 1994), race and ethnicity (Sidanius, Pratto, & Bobo, 1996), and control over group resources (Keltner et al., 2003; Magee & Galinsky, 2008). Although each of these forms of hierarchy has unique elements, they may all rely on a set of common psychological mechanisms—mechanisms designed to face challenges associated with inequalities in social rank.

From an evolutionary perspective, psychological processes that help people face challenges associated with modern hierarchies may rely on evolved mechanisms designed to help people navigate their way through ancestral social rank hierarchies. Many forms of modern hierarchy such as those based on social class or ethnicity were not found in ancestral times and thus basic mechanisms for dealing with those hierarchies, specifically, are unlikely to have evolved. Hierarchies based on race or ethnicity were unlikely to have existed because geographical distance and constraints on locomotion would have prevented morphologically dissimilar groups from coming into contact with one another (Cosmides, Tooby, & Kurzban, 2003). Indeed, most crossgroup interactions involved relatively transient interactions, often involving situational conflict or cooperation, and stable and lasting intergroup hierarchies were unlikely to have played a strong role in the development of the human mind.

Similarly, it is unlikely that the mind possesses mechanisms designed specifically to face challenges associated with social class. Social class is based on a person's long-term exposure to environments marked by abundant vs scarce resources, which in turn evokes a general orientation toward autonomy and independence (high social class) vs interdependence (lower social class; Stephens et al., 2012). It is unlikely that during ancestral times people

would have been assorted into strata that resemble contemporary forms of social class. Ancestral hunter–gatherers were highly interdependent and lacked the accumulation of resources that characterizes many modern groups. Thus, it is unlikely that specialized mechanisms would have evolved to deal with social class hierarchies.

Psychological processes people recruit to face challenges associated with modern hierarchies may rely on evolved strategies that were designed in the course of human evolutionary history to navigate in-group social rank hierarchies. In particular, the strategies through which members of these hierarchies attain and maintain their social rank could be characterized by dominance and prestige. For example, the literature on social dominance orientation (SDO; Sidanius et al., 1996) implies that some people view group-based dominance hierarchies in ways that are similar to within-group dominance hierarchies. People high in SDO consent to the use of coercion and force as means through which groups maintain their rank over other groups. In contrast, some people might be more inclined to use prestige-oriented means to increase the social rank of their group, for example, by publicizing members' noteworthy accomplishments to increase the level of respect and admiration afforded to the group (cf. Columb & Plant, 2011). The extent to which dominance and prestige strategies play a role in the development and maintenance of modern hierarchies, including intergroup hierarchies, provides a wealth of opportunities for new research.

4. CONCLUSION

Human social groups are characterized by hierarchies that provide strong personal benefits for group members who are able to ascend into positions of high social rank. Underlying the proximate benefits of having high social rank (eg, greater autonomy, preferential access to group resources) there also are deeper, evolved motivations that drive people to acquire and hold onto positions of power, status, and influence within a group. An evolutionary social psychological perspective provides a valuable conceptual framework with which to investigate the means by which individuals regulate their standing in hierarchically stratified groups.

One key insight provided by an evolutionary approach is that, although humans are unique among primates with regard to our social and cultural complexity, there is also much we share in common with nonhuman primates. Indeed, humans sometimes display motivations and capacities that

are very similar to our extant primate relatives. However, humans also navigate social hierarchies in ways that are very different from other primates and, in doing so, they illustrate phylogenetically unique facets of human leadership.

This chapter highlights two strategies that have played a critical role in regulating human social rank hierarchies throughout history. One of those strategies—dominance—we share in common with other primates such as our genetic cousin, the chimpanzee. People who adopt a dominance strategy attain social rank through fear, coercion, intimidation, and the selfish manipulation of resources. The second strategy—prestige—also reflects a set of behaviors used to gain and maintain social rank, but the use of prestige differentiates us from nonhuman primates. People who adopt a prestige strategy attain social rank by displaying traits, knowledge, and skills that are valuable to the group. Unlike those who use dominance, those who use prestige are loved, rather than feared. And the presence of these dual strategies highlights the wisdom of Machiavelli's words pertaining to leadership. People can lead through love or fear, and both reflect fundamental aspects of human social hierarchies.

REFERENCES

Ainsworth, S. E., & Maner, J. K. (2012). Sex begets violence: Mating motives, social dominance, and aggressive behavior in men. *Journal of Personality and Social Psychology*, *103*, 819–829.

Ainsworth, S. E., & Maner, J. K. (2014). Assailing the competition: Sexual selection, proximate mating motives, and aggressive behavior in men. *Personality and Social Psychology Bulletin*, *40*, 1648–1658.

Allen, J., & van der Velden, R. (2001). Educational mismatches versus skill mismatches: Effects on wages, job satisfaction, and on-the-job search. *Oxford Economic Papers*, *53*, 434–452.

Anderson, C., & Galinsky, A. D. (2006). Power, optimism, and risk-taking. *European Journal of Social Psychology*, *36*, 511–536.

Anderson, C., & Kilduff, G. J. (2009a). The pursuit of status within social groups. *Current Directions in Psychological Science*, *18*, 295–298.

Anderson, C., & Kilduff, G. J. (2009b). 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.

Archer, J. (2009). Does sexual selection explain human sex difference in aggression? *Behavioral and Brain Sciences*, *32*, 249–311.

Bargh, J. A., Gollwitzer, P. M., Lee-Chai, A., Barndollar, K., & Trotschel, R. (2001). The automated will: Nonconscious activation and pursuit of behavioral goals. *Journal of Personality and Social Psychology*, *81*, 1014–1027.

Barkow, J. H. (1975). Prestige and culture: A biosocial interpretation. *Current Anthropology*, *16*, 553–572.

Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology*, *5*, 323–370.

Bendahan, S., Zehnder, C., Pralong, F. P., & Antonakis, J. (2015). Leader corruption depends on power and testosterone. *The Leadership Quarterly*, *26*, 101–122.

Berger, J., Rosenholtz, S. J., & Zelditch, M. (1980). Status organizing processes. *Annual Review of Sociology*, *6*, 479–508.

Boehm, C. (1999). *Hierarchy in the forest*. Cambridge, MA: Harvard University Press.

Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review*, *100*, 204–232.

Case, C. R., & Maner, J. K. (2014). Divide and conquer: When and why leaders undermine the cohesive fabric of their group. *Journal of Personality and Social Psychology*, *107*, 1033–1050.

Case, C. R., & Maner, J. K. (2016a). *When expertise is squandered: The misalignment of skills and roles within groups*. Kellogg School of Management (manuscript under review).

Case, C. R., & Maner, J. K. (2016b). *What they don't know won't hurt me: When leaders conceal the skills of their top-performers*. Kellogg School of Management (manuscript under review).

Case, C. R., Mead, N. L., & Maner, J. K. (2016). Ascending through the ranks: When those without power disrupt the social order of their group. *Kellogg School of Management (manuscript under review)*.

Cheng, J. T., Tracy, J. L., Foulsham, T., Kingstone, A., & Henrich, J. (2013). Two ways to the top: Evidence that dominance and prestige are distinct yet viable avenues to social rank and influence. *Journal of Personality and Social Psychology*, *104*, 103–125.

Cheng, J. T., Tracy, J. L., & Henrich, J. (2010). Pride, personality, and the evolutionary foundations of human social status. *Evolution and Human Behavior*, *31*, 334–347.

Cheng, J. T., Tracy, J. L., & Henrich, J. (2015). *Dominance promotes social rank via heightened fear*. Urbana-Champaign, IL: Department of Psychology, University of Illinois (manuscript in preparation).

Cheng, J. T., Tracy, J. L., Ho, S., & Henrich, J. (2016). *Listen, follow me: Dynamic vocal signals of dominance predict emergent social rank in humans*. Urbana-Champaign, IL: Department of Psychology, University of Illinois (manuscript in preparation).

Columb, C., & Plant, E. A. (2011). Revisiting the Obama effect: Exposure to Obama reduces implicit prejudice. *Journal of Experimental Social Psychology*, *47*, 499–501.

Correll, J., & Park, B. (2007). A model of the ingroup as a social resource. *Personality and Social Psychology Review*, *9*, 341–359.

Cosmides, L., & Tooby, J. (1992). Cognitive adaptations for social exchange. In J. Barkow, L. Cosmides, & J. Tooby (Eds.), *The adapted mind* (pp. 163–228). New York, NY: Oxford University Press.

Cosmides, L., Tooby, J., & Kurzban, R. (2003). Perceptions of race. *Trends in Cognitive Sciences*, *7*, 173–179.

De Cremer, D. (2002). Respect and cooperation in social dilemmas: The importance of feeling included. *Personality and Social Psychology Bulletin*, *28*(10), 1335–1341.

De Cremer, D., & Van Vugt, M. (2002). Intergroup and intragroup aspects of leadership in social dilemmas: A relational model of cooperation. *Journal of Experimental Social Psychology*, *38*, 126–136.

DeVore, I., & Hall, K. R. L. (1965). Baboon ecology. In I. DeVore (Ed.), *Primate behavior: Field studies of monkeys and apes* (p. 43). New York: Holt, Rinehart and Winston.

de Waal, F. (1999). *Chimpanzee politics: Power and sex among apes*. New York, NY: Harper & Row.

Ellemers, N., Wilke, H., & Van Knippenberg, A. (1993). Effects of the legitimacy of low group or individual status on individual and collective status-enhancement strategies. *Journal of Personality and Social Psychology*, *64*, 766–778.

Fast, N., Halevy, N., & Galinsky, A. D. (2012). The destructive nature of power without status. *Journal of Experimental Social Psychology*, *48*, 391–394.

Fessler, D. M. T., Holbrook, C., & Gervais, M. M. (2014). Men's physical strength moderates conceptualizations of prospective foes in two disparate societies. *Human Nature*, *25*, 393–409.

Galinsky, A. D., Gruenfeld, D. H., & Magee, J. C. (2003). From power to action. *Journal of Personality and Social Psychology*, *85*, 453–466.

Gangestad, S. W., & Simpson, J. A. (2000). On the evolutionary psychology of human mating: Trade-offs and strategic pluralism. *Behavioral and Brain Sciences*, *23*, 573–587.

Green, F., & McIntosh, S. (2007). Is there a genuine under-utilization of skills amongst the over-qualified? *Applied Economics*, *39*, 427–439.

Hays, N. A., & Bendersky, C. (2015). Not all inequality is created equal: Effects of status versus power hierarchies on competition for upward mobility. *Journal of Personality and Social Psychology*, *108*, 867–882.

Henrich, J., & Gil-White, F. J. (2001). The evolution of prestige: Freely conferred deference as a mechanism for enhancing the benefits of cultural transmission. *Evolution and Human Behavior*, *22*, 165–196.

Hill, J. (1984). Prestige and reproductive success in man. *Ethology and Sociobiology*, *5*, 77–95.

Hinsz, V. B., Tindale, R. S., & Vollrath, D. A. (1997). The emerging conceptualization of groups as information processors. *Psychological Bulletin*, *121*, 43–64.

Isen, A. M., & Geva, N. (1987). The influence of positive affect on acceptable levels of risk: The person with a large canoe has a large worry. *Organizational Behavior and Human Decision Processes*, *39*, 145–154.

Isen, J. D., McGue, M. K., & Iacono, W. G. (2015). Aggressive-antisocial boys develop into physically stronger men. *Psychological Science*, *26*, 444–455.

Jehn, K. A., & Shah, P. P. (1997). Interpersonal relationships and task performance: An examination of mediation processes in friendship and acquaintance groups. *Journal of Personality and Social Psychology*, *72*, 775–790.

Johnson, R. T., Burk, J. A., & Kirkpatrick, L. A. (2007). Dominance and prestige as differential predictors of aggression and testosterone levels in men. *Evolution and Human Behavior*, *28*, 345–351.

Kay, A. C., Jost, J. T., Mandisodza, A. N., Sherman, S. J., Petrocelli, J. V., & Johnson, A. L. (2007). Panglossian ideology in the service of system justification: How complementary stereotypes help us to rationalize inequality. In M. Zanna (Ed.), *Advances in experimental social psychology: Vol. 39* (pp. 305–358). San Diego, CA: Elsevier Academic Press.

Keltner, D., Gruenfeld, D., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological Review*, *110*, 265–284.

Kenrick, D. T., Griskevicius, V., Neuberg, S. L., & Schaller, M. (2010). Renovating the pyramid of needs: Contemporary extensions built upon ancient foundations. *Perspectives on Psychological Science*, *5*, 292–314.

Kenrick, D. T., Maner, J. K., Butner, J., Li, N. P., & Schaller, M. (2002). Dynamical evolutionary psychology: Mapping the domains of the new interactionist paradigm. *Personality and Social Psychology Review*, *6*, 347–356.

Kilduff, G., & Galinsky, A. D. (2013). From the ephermeral to the enduring: How approach-oriented mindsets lead to greater status. *Journal of Personality and Social Psychology*, *105*, 816–831.

Kunstman, J., & Maner, J. K. (2011). Sexual overperception: Power, mating goals, and biases in social judgment. *Journal of Personality and Social Psychology*, *100*, 282–294.

Lausten, L., & Petersen, M. B. (2015). Does a competent leader make a good friend? Conflict, ideology, and the psychologies of friendship and followership. *Evolution and Human Behavior*, *26*, 286–293.

Lejuez, C. W., Aklin, W. M., Zvolensky, M. J., & Pedulla, C. M. (2003). Evaluation of the balloon analogue risk task (BART) as a predictor of adolescent real-world risk-taking behaviours. *Journal of Adolescence*, *26*, 475–479.

Machiavelli, N. (1521/2001). *The art of war*. Cambridge, MA: Da Capo Press.

Machiavelli, N. (1532/1992). *The prince*. New York, NY: Dover Publishers.

Magee, J., & Galinsky, A. (2008). Social hierarchy: The self-reinforcing nature of power and status. *The Academy of Management Annals*, *2*, 351–398.

Maner, J. K. (in press). Evolved social motives. When knowing about the past provides a window onto the present. In A. Elliot (Ed.), *Advances in Motivation Science* (Vol. 3). San Diego, CA: Elsevier Academic Press.

Maner, J. K., DeWall, C. N., & Gailliot, M. T. (2008). Selective attention to signs of success: Social dominance and early stage interpersonal perception. *Personality and Social Psychology Bulletin*, *34*, 488–501.

Maner, J. K., Gailliot, M. T., Butz, D., & Peruche, B. M. (2007). Power, risk, and the status quo: Does power promote riskier or more conservative decision-making? *Personality and Social Psychology Bulletin*, *33*, 451–462.

Maner, J. K., Gailliot, M. T., Menzel, A. J., & Kunstman, J. W. (2012). Dispositional anxiety blocks the psychological effects of power. *Personality and Social Psychology Bulletin*, *38*, 1383–1399.

Maner, J. K., Kenrick, D. T., Neuberg, S. L., Becker, D. V., Robertson, T., Hofer, B., et al. (2005). Functional projection: How fundamental social motives can bias interpersonal perception. *Journal of Personality and Social Psychology*, *88*, 63–78.

Maner, J. K., & Mead, N. (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.

Maner, J. K., Miller, S. L., Moss, J., Leo, J., & Plant, E. A. (2012). Motivated social categorization: Fundamental motives enhance people's sensitivity to basic social categories. *Journal of Personality and Social Psychology*, *103*, 70–83.

Maner, J. K., Miller, S. L., Schmidt, N. B., & Eckel, L. A. (2008). Submitting to defeat: Social anxiety, dominance threat, and decrements in testosterone. *Psychological Science*, *19*, 264–268.

Mavromaras, K., McGuinness, S., & Fok, Y. (2009). Assessing the incidence and wage effects of over-skilling in the Australian labour market. *The Economic Record*, *85*, 60–72.

Mazur, A., & Booth, A. (1998). Testosterone and social dominance in men. *Behavioral and Brain Sciences*, *21*, 353–397.

McClelland, D. C. (1970). The two faces of power. *Journal of International Affairs*, *24*, 29–47.

McClelland, D. C. (1975). *Power: The inner experience*. Oxford, England: Irvington.

Mead, N. L., & Maner, J. K. (2012a). On keeping your enemies close: Powerful leaders seek proximity to ingroup power-threats. *Journal of Personality and Social Psychology*, *102*, 576–591.

Mead, N. L., & Maner, J. K. (2012b). When me vs. you becomes us vs. them: How intergroup competition shapes ingroup psychology. *Social and Personality Psychology Compass*, *6*, 566–574.

Mehta, P., & Josephs, R. (2006). Testosterone change after losing predicts the decision to compete again. *Hormones and Behavior*, *50*, 684–692.

Miller, G. E., Chen, E., & Parker, K. J. (2011). Psychological stress in childhood and susceptibility to the chronic diseases of aging: Moving towards a model of behavioral and biological mechanisms. *Psychological Bulletin*, *137*, 959–997.

Moss, J., & Maner, J. K. (2016). Biased sex ratios influence fundamental aspects of human mating. *Personality and Social Psychology Bulletin*, *42*, 72–80.

Nadler, R. (1976). Rann versus Calabar: A study in gorilla behavior. *Yerkes Newsletter*, *13*, 11–14.

Neuberg, S. L., Kenrick, D. T., & Schaller, M. (2011). Human threat management systems: Self-protection and disease avoidance. *Neuroscience and Biobehavioral Reviews*, *35*, 1042–1051.

Nishida, T. (1983). Alpha status and agonistic alliance in wild chimpanzees (*Pan troglodytes schweinfurthii*). *Primates*, *24*, 318–336.

Nishida, T., & Hosaka, K. (1996). Coalition strategies among adult male chimpanzees of the Mahale Mountains, Tanzania. In W. C. McGrew, L. F. Marchant, & T. Nishida (Eds.), *Great ape societies* (pp. 114–134). Cambridge: Cambridge University Press.

Öhman, A. (1986). Face the beast and fear the face: Animal and social fears as prototypes for evolutionary analyses of emotion. *Psychophysiology*, *23*, 123–145.

Pratto, F. (in press). On power as empowerment. *British Journal of Social Psychology*.

Puts, D. A., Jones, B. C., & DeBruine, L. M. (2012). Sexual selection on human faces and voices. *Journal of Sex Research*, *49*(2–3), 227–243.

Quintini, G. (2011). *Over-qualified or under-skilled: A review of existing literature*. OECD Social, Employment, and Migration Working Papers, 121, pp. 1–47.

Sapolsky, R. M. (2005). The influence of social hierarchy on primate health. *Science*, *308*, 648–652.

Sell, A., Tooby, J., & Cosmides, L. (2009). Formidability and the logic of human anger. *Proceedings of the National Academy of Sciences of the United States of America*, *106*, 15073–15078.

Sherman, G. D., Lerner, J. S., Josephs, R. A., Renshon, J., & Gross, J. J. (in press). The interaction of testosterone and cortisol is associated with attained status in male executives. *Journal of Personality and Social Psychology*.

Sidanius, J., Pratto, F., & Bobo, L. (1994). Social dominance orientation and the political psychology of gender: A case of invariance? *Journal of Personality and Social Psychology*, *67*, 998–1011.

Sidanius, J., Pratto, F., & Bobo, L. (1996). Racism, conservatism, affirmative action and intellectual sophistication: A matter of principled conservatism or group dominance? *Journal of Personality and Social Psychology*, *70*, 476–490.

Stanton, S. J., & Schultheiss, O. C. (2009). The hormonal correlates of implicit power motivation. *Journal of Research in Personality*, *43*, 942–949.

Stephens, N., Markus, H. R., & Fryberg, S. (2012). Social class disparities in health and education: Reducing inequality by applying a sociocultural self model of behavior. *Psychological Review*, *119*, 723–744.

Tetlock, P. E. (1981). Pre- to post-election shifts in presidential rhetoric: Impression management or cognitive adjustment? *Journal of Personality and Social Psychology*, *41*, 207–212.

Thomas, K. A., DeScioli, P., Haque, O. S., & Pinker, S. (2014). The psychology of coordination and common knowledge. *Journal of Personality and Social Psychology*, *107*, 657–676.

Tiedens, L. Z., Unzueta, M. M., & Young, M. J. (2007). An unconscious desire for hierarchy? The motivated perception of dominance complementarity in task partners. *Journal of Personality and Social Psychology*, *93*, 402–414.

Van Vugt, M. (2006). Evolutionary origins of leadership and followership. *Personality and Social Psychology Review*, *10*, 354–371.

Van Vugt, M., & De Cremer, D. (1999). Leadership in social dilemmas: The effects of group identification on collective actions to provide public goods. *Journal of Personality and Social Psychology*, *76*, 587–599.

Van Vugt, M., De Cremer, D., & Janssen, D. (2007). Gender differences in cooperation and competition: The male warrior hypothesis. *Psychological Science*, *18*, 19–23.

Van Vugt, M., Hogan, R., & Kaiser, R. (2008). Leadership, followership, and evolution: Some lessons from the past. *American Psychologist*, *63*, 182–196.

Van Vugt, M., & Spisak, B. R. (2008). Sex differences in the emergence of leadership during competitions within and between groups. *Psychological Science*, *19*, 854–858.

Vieira, J. A. C. (2005). Skill mismatches and job satisfaction. *Economics Letters*, *89*, 39–47.

Wilson, M., & Daly, M. (1985). Competitiveness, risk-taking, and violence: The young male syndrome. *Ethology and Sociobiology*, *6*, 59–73.

Wingfield, J. C., Hegner, R. E., Dufty, A. M., & Ball, G. F. (1990). The challenge hypothesis: "Theoretical implications" for patterns of testosterone secretion, mating systems, and breeding strategies. *The American Naturalist*, *136*, 829–846. http://dx.doi.org/10.1086/285134.

Winter, D. G., & Barenbaum, N. B. (1985). Responsibility and the power motive in men and women. *Journal of Personality and Social Psychology*, *53*, 335–355.

Wittenbaum, G. M., Hollingshead, A. B., & Botero, I. C. (2004). From cooperative to motivated information sharing in groups: Moving beyond the hidden profile paradigm. *Communication Monographs*, *71*, 286–310.