

Annual Review of Psychology

Social Motivation at Work: The Organizational Psychology of Effort for, Against, and with Others

Adam M. Grant and Marissa S. Shandell

The Wharton School, University of Pennsylvania, Philadelphia, Pennsylvania 19104, USA;
email: grantad@wharton.upenn.edu, msol@wharton.upenn.edu

Annu. Rev. Psychol. 2022. 73:301–26

First published as a Review in Advance on
July 19, 2021

The *Annual Review of Psychology* is online at
psych.annualreviews.org

<https://doi.org/10.1146/annurev-psych-060321-033406>

Copyright © 2022 by Annual Reviews.
All rights reserved

Keywords

work motivation, prosocial behavior, competition, collaboration

Abstract

Although a great deal of effort in tasks, projects, and jobs is fueled by our interactions and relationships, psychologists have often overlooked the social forces that shape work motivation. In this review, we examine new developments in research on the interpersonal dynamics that enable and constrain proactivity, persistence, performance, and productivity. The first section examines the impact of competition on work motivation, including the roles of rivalries, favorite versus underdog expectations, and status strivings. The second section focuses on when and how prosocial motivation can drive people to work harder, smarter, safer, and more collaboratively, as well as on the antecedents and collective consequences of this desire to benefit others. The third section centers on motivation in collaborations, emphasizing contagion, social proximity, friendship, and the motivation to lead. Together, these literatures suggest that although rivalries and friendships are double-edged swords, the twin goals to compete and contribute can be harnessed constructively.

ANNUAL
REVIEWS **CONNECT**

www.annualreviews.org

- Download figures
- Navigate cited references
- Keyword search
- Explore related articles
- Share via email or social media

Contents

| | |
|---|-----|
| INTRODUCTION | 302 |
| COMPETITION | 303 |
| Rivalry | 303 |
| Expectations | 304 |
| Status | 305 |
| PROSOCIAL MOTIVATION | 306 |
| Benefits of Prosocial Motivation at Work | 307 |
| Costs of Prosocial Motivation at Work | 308 |
| Collective Consequences of Prosocial Motivation at Work | 310 |
| Antecedents of Prosocial Motivation at Work | 311 |
| MOTIVATION IN COLLABORATION | 314 |
| Contagion and Motivation | 314 |
| Social Proximity and Motivation | 316 |
| Motivation to Lead | 317 |
| MOTIVATING FUTURE RESEARCH | 318 |

INTRODUCTION

Many of the greatest inventions and achievements in human history have been propelled by relationships. In some cases, people have relied on supporters for motivation. Martin Luther King Jr. was coaxed into leading the civil rights movement by a colleague who nominated him for the presidency of the Montgomery Improvement Association; Jane Goodall only pursued primatology after a mentor sent her to Tanzania for a research project, stressing that her lack of training would give her fresh eyes; Stephen King only published his first novel, *Carrie*, after his wife rescued the early pages from the trash and encouraged him to revive them. In other cases, people have turned to adversaries for inspiration. Larry Bird started his mornings by looking up Magic Johnson's performance in last night's game; Matisse and Picasso studied and criticized one another's work to improve their own; Steve Jobs was inspired to make the iPhone and iPad in part by a Microsoft executive who boasted about the superiority of the stylus for a tablet.

Motivating relationships are not limited to dynamic duos. Motivation can be driven by connections to broader groups and organizations, where people aim for belonging, status, or impact on complete strangers. Scientists have produced COVID vaccines in record time to end a global pandemic, and climate activists have worked to create a better world for generations who have not even been born yet. Of course, as anyone who has ever had an abusive boss or a discouraging Dementor can attest, relationships can also be demotivating. We can only wonder how many more peaks might have been reached if not for the deflating effects of other people.

Work motivation is the set of psychological forces that guide, energize, and sustain effort in jobs, projects, and tasks. At the dawn of work motivation research, scholars recognized the critical role of relationships. The classic Hawthorne experiments suggested that productivity was motivated not by changes in lighting and other working conditions but by attention from managers (although recent analyses suggest the effects are subtle; see Levitt & List 2011). As psychologists developed theories of work motivation, though, they tended to focus on the processes inside employees' heads as well as the nature of their tasks and incentives. Social factors were largely painted into the background, with occasional nods to equity preferences, power and affiliation motives, collectivistic goals, the roles of managers in setting goals and undermining intrinsic motivation,

Work motivation: the set of psychological forces that guide, energize, and sustain effort in jobs, projects, and tasks

Intrinsic motivation: the desire to expend effort based on interest and enjoyment

and the design of jobs that create opportunities for social interaction, friendship, and a positive impact on other people. Meanwhile, organizational scholars interested in leadership, teams, justice, power, status, diversity, and emotions went on to study relationships in depth, but they rarely examined them through the lens of motivation. In recent years, these two streams have begun to converge, and scholars of organizational psychology and organizational behavior have made meaningful strides toward understanding the social forces behind work motivation. This progress has proven timely, as the nature of work has become increasingly social: We have wider networks, more service jobs, more teams, more cross-functional collaborations, and (gasp) more meetings. At the same time, work has become differently social: Our organizations are slowly growing more diverse, and our interactions have rapidly gone virtual.

Our objective in this article is to review some of the most exciting new developments in the study of the role of relationships in work motivation. It is not intended to be exhaustive (or exhausting) but rather to call attention to key insights, emerging patterns, and unanswered questions. We hope to motivate (*a*) organizational scholars to reinvigorate and reinvent work motivation research for this increasingly and differently social world, (*b*) psychologists in other subfields to learn from and contribute to this body of knowledge, and (*c*) a broad community of social scientists working on seemingly distinct problems to recognize that they share a common interest in exploring relationships as a unifying engine of some of our best (and worst) work.

COMPETITION

Anyone who has looked up a coauthor's citation counts, envied a younger colleague's promotion, or delighted at debunking a rival's research has experienced the impact of competition on work motivation. As long as people have worked, they have competed to stand out—or avoid standing out like a sore thumb. Humans are achievement- and status-seeking creatures: Our effort can rise or fall as we benchmark ourselves against others.

Rivalry

Not all competitions are equally motivating. In rivalries, individuals are particularly motivated to defeat an opponent with whom they have a history (Kilduff et al. 2010). In a series of clever archival and experimental studies, researchers have explored the motivational consequences of rivalries. On the one hand, rivalries have clear and consistent performance benefits for both individuals and teams. In a study of long-distance runners, people ran faster when their rivals were in a race (Kilduff 2014). Further, professional baseball, basketball, football, and hockey teams were more successful in the playoffs if their biggest rival had done well the prior year—particularly if they had won the championship (Pike et al. 2018).

Rivalry can raise the perceived stakes of a competition even though the actual stakes are the same, motivating people to work harder, smarter, and longer. This is in part because rivalry can foster promotion focus—the motivation to achieve a gain—and compel individuals to focus on goal attainment (To et al. 2018). The underlying arousal is even visible in physiological responses: In one experiment in which students at the University of Arizona played a card game, their hearts beat faster if their opponents were wearing the hat of their rival Arizona State University rather than the University of Colorado (To et al. 2018). This arousal, coupled with heightened promotion focus in survey responses, mediated the effect of rivalry on risk taking. Further, in an archival study, National Football League (NFL) teams were more likely to take risks in the form of attempting two-point conversions after a touchdown rather than kicking an easier extra point, and of going for it on fourth down rather than playing it safe by punting, when they were competing against

Rivalry: a relationship in which individuals are particularly motivated to defeat a competitor with whom they have a history

a rival—with rivalry measured by sports analyst rankings, fan ratings, and popularity in Google searches.

The risks that individuals are willing to take to defeat their rivals sometimes violate rules and cross ethical lines (Kilduff et al. 2016). In a study of professional soccer, players were more likely to be penalized with yellow cards for unsportsmanlike conduct in matches against rival teams. In an experiment at The Ohio State University, students were over four times more likely to lie for personal gain to a peer who supposedly attended the University of Michigan, their longtime football rival, rather than the University of Virginia or the University of California, Berkeley. Subsequent experiments showed that rivalries motivated unethical behavior by raising status concerns and making self-worth more contingent on performance, leading individuals to focus on the benefits of winning rather than on the costs of acting immorally (Kilduff et al. 2016).

Because rivalries can motivate high levels of effort but also counterproductive behaviors, it is critical to understand how to obtain the benefits without the costs. One antidote to the destructive effects is to form supportive rivalries, in which employees have a vested interest in their rivals' success as well as their own. In a qualitative study of gourmet food trucks (Sonenshein et al. 2017), competing trucks were surprisingly willing to help one another. Competitors pitched in to fix one another's equipment, covered for one another when they ran out of ingredients and supplies, shared advice with new entrants about fruitful locations, and even directly promoted one another on social media. Although these trucks technically competed for customers, they recognized their common identity and rejected the assumption that success was zero-sum. They believed that by working together, they could expand the food truck industry and overcome collective challenges like city regulations. The presence of a common outgroup—nongourmet food trucks—promoted cooperation among previously competing trucks.

Although psychologists have long recognized that cooperation and competition are not mutually exclusive, it is only relatively recently that we have learned that temporal order matters. It is more difficult for teams to shift from competition to cooperation than from cooperation to competition. In a military defense computer simulation (Johnson et al. 2006), teams played two rounds in different orders: one with rewards for individual performance and the other with rewards for collective performance. Teams that started out with collective rewards and then shifted to individual rewards had no trouble transitioning to a healthy pattern of friendly competition. However, the reverse transition did not go as smoothly: When participants started out with individual rewards and then shifted to collective rewards, they demonstrated a pattern of cutthroat cooperation that gained speed but lost accuracy. They struggled to see one another as allies, keeping valuable information to themselves at the expense of the group's performance.

Although incentives can temporarily encourage cooperation between potential competitors, they may not be enough to sustain it. In a study of salespeople (Sandvik et al. 2020), those who were paid based on joint output with a colleague boosted their sales during the experiment, but the benefits dissipated after the experiment ended and the collaboration incentives were removed. A different intervention was effective in maintaining collaboration: Pairing up salespeople so they could exchange advice during weekly lunches increased sales by 15%, and these benefits persisted for at least 20 weeks after the experiment ended. Offering incentives motivated employees to have transactions that maximized their performance; building a relationship led employees to continue learning from one another.

Expectations

Every competition comes with performance expectations: Some individuals are expected to excel and others are expected to struggle. Traditionally, researchers studied the motivational effects of

expectations through the lenses of self-fulfilling prophecies (McNatt 2000) and stereotype threat (Nguyen & Ryan 2008). The typical empirical pattern was that employees internalized social expectations, performing better when expectations were high (the Pygmalion effect) and worse when they were low (the Golem effect).

However, scholars have begun to highlight that under certain conditions, expectations can also become self-negating prophecies (Kray et al. 2004). Just as favorites may become complacent (e.g., Dutton & Duncan 1987), new research on the underdog effect (Nurmohamed 2020) shows that low expectations can become a source of motivation. In a field study at a consumer packaged goods company, new hires who reported being seen as underdogs received higher performance evaluations from their supervisors. In a pair of experiments, participants were randomly assigned to an underdog, favorite, or neutral expectation condition. Those in the underdog condition performed better in an accuracy task and were more likely to reach the optimal solution in the negotiation, and the latter effect was mediated by the motivation to prove others wrong. Expectations do not operate only through self-efficacy; they also influence relational motives to manage one's impression in the eyes of others.

A key question concerns when employees internalize low expectations and when they are determined to defy those expectations instead. A critical moderator is whether low expectations come from a credible source. Whereas research on self-fulfilling prophecies largely focused on expectations from credible observers such as immediate supervisors, research on the underdog effect has theoretically and empirically explored the importance of source credibility. In an experiment, underdog expectations only motivated higher performance when the source of those expectations lacked credibility (Nurmohamed 2020). It seems that when observers are not experts on the task or familiar with employees' capabilities, it is more likely that employees will become motivated to prove them wrong.

There is also reason to believe that underdogs and favorites are motivated differently. Favorites tend to have a prevention focus—seeking to avoid a loss—whereas underdogs typically have a promotion focus. Goal commitment and effort are heightened when motivational appeals are matched to this regulatory focus, encouraging favorites to avoid a loss and underdogs to strive for a win (Lount et al. 2017).

Status

The expectations others hold of us have deep roots in—and broad implications for—status. Status has increasingly emerged as a fundamental concern in work motivation research, following the recognition that individuals are motivated to maintain and improve their standing in social hierarchies. In a study of telemarketing sales representatives in a financial services company, status strivings predicted performance even after controlling for achievement strivings (Barrick et al. 2002).

Status hierarchies can exist across a range of dimensions, from performance to intelligence. The level of status attained based on past performance can motivate or undermine future performance. In studies of NASCAR drivers and PGA golfers (Bothner et al. 2012), there was a curvilinear relationship between past performance and future performance, such that moderate status in the field predicted higher performance, but very high status was associated with lower performance. It may be that high status—e.g., being a favorite—can make individuals complacent.

When individuals occupy a lower position in a status hierarchy, upward social comparisons can lead to the emotion of envy, the pain of being inferior to another person on a given dimension. As equity theory has long suggested, envy can motivate both productive and counterproductive behaviors. On the one hand, individuals may strive for self-improvement and affiliation (van de Ven

2017); on the other hand, they may sabotage others or self-destruct (Duffy et al. 2012). There are some strategies that can buffer against the negative effects of malicious envy. For example, individuals can actively manage the envy others feel toward them by expressing humility and vulnerability (Brooks et al. 2019). In a field experiment, entrepreneurs who revealed their failures along with their successes mitigated observers' feelings of malicious envy without sacrificing admiration or status.

Status is not only relative; it is also dynamic. In a pair of longitudinal studies of middle managers enrolled in part-time Master of Business Administration programs (Bendersky & Shah 2012), those who held high-status positions throughout the quarter outperformed their peers, but those who gained status over the quarter did no better than their lower-status peers. The interpersonal effort required to enhance social status may have detracted from individual task focus.

Losing status can also take a toll, especially for high-status individuals. In a field study of professional baseball players (Marr & Thau 2014), after losing arbitration in salary disputes, All-Star players declined in batting performance, whereas lower-status players showed no decreases in performance. In follow-up experiments, losing high status reduced performance quality but not quantity, pointing to the possibility of attention rather than effort as the underlying motivational process. Attention was likely redirected toward managing self-threat, as a self-affirmation manipulation protected against the performance costs of losing high status.

Status strivings appear to be most salient in smaller ponds. The larger the number of individuals in a competition, the less driven participants are to excel (Garcia & Tor 2009). This effect is explained not by perceived likelihood of success but by social comparison: Individuals are less likely to benchmark their performance against a large group. A single competitor can fire us up; an endless pool of competitors can extinguish our desire to stand out.

Although status strivings can be a source of motivational fuel, it is not always effective to share information with employees about their relative rank in a performance hierarchy. In a field experiment with furniture salespeople, removing feedback about performance rankings actually boosted sales performance by 11%—in part because employees were more likely to focus their effort on sales rather than on other tasks in which they were not ranked (Barankay 2012). Interestingly, this effect was driven by gains in men's performance, which is surprising in light of evidence that men tend to see more upsides in competition than women (Kesebir et al. 2019).

Rankings may inadvertently hamper performance by discouraging effort, but they can also undermine motivation by reducing morale, evoking perceptions of inequity, and reducing collaboration toward collective goals. In particular, forced rankings—a type of relative evaluation system in which employees are assessed against one another and stacked according to a fixed distribution—may backfire. Several studies show that such systems can have a negative effect on teamwork and collaboration: People are less inclined to cooperate with peers who have similar rankings and have the potential to gain in standing (Garcia & Tor 2007). The good news is that there are ways to mitigate some of the negative effects of performance rankings. For example, when performance rankings were introduced in online games, cooperation fell significantly, but introducing reputational information that emphasized individuals' past prosocial contributions was effective in buffering against this risk (Chambers & Baker 2020).

PROSOCIAL MOTIVATION

There is a long-standing debate about whether success at work requires selfishness. Individual differences in selfishness—the tendency to pursue one's own interests at the expense of others—are robust across cultures (Diebels et al. 2018). There is a growing argument in favor of considering selfishness as a sixth fundamental trait of personality along with the traditional Big Five traits

of extraversion, emotional stability, conscientiousness, openness, and agreeableness. In particular, whereas agreeableness is a tendency to seek social harmony through outer politeness and cooperativeness, selfishness involves the inner motivation to help and care about oneself (versus others). It is possible for people to be agreeable and selfish—or disagreeable and generous. Individual differences in selfishness may better reflect the sixth factor of personality than what was previously conceptualized as honesty/humility (Diebels et al. 2018), and they have powerful implications for work motivation.

In an unusually creative study, ten Brinke et al. (2017) studied whether selfish hedge fund managers had better or worse financial returns over a decade. They measured the extent to which managers showed a lack of empathy when talking about others' struggles, exhibited *schadenfreude* by smiling at others' failures, and displayed disingenuous kindness in interactions (i.e., signs of psychopathy); they also observed the degree to which managers talked about themselves and stuck out their chests in hubristic pride (i.e., signs of narcissism). Hedge fund managers who scored one standard deviation above the mean in psychopathy had 15% lower returns than their peers, and narcissistic hedge fund managers also performed worse than other managers.

There may even be costs of selfishness in politics. In a study of US senators, ten Brinke et al. (2016) examined whether psychopaths were more or less influential in enlisting colleagues as cosponsors on bills. Senators who scored higher on psychopathy in video ratings tended to stagnate or lose influence after rising into leadership roles, whereas senators who scored high in kindness and humanity were more likely to gain influence. If a selfishness penalty emerges even in settings that are known for cutthroat competition, it is likely to extend to more collaborative settings as well. This raises important questions about whether there may also be a generosity premium in a wide range of workplaces.

Benefits of Prosocial Motivation at Work

Psychologists have increasingly recognized that at work, many individuals are motivated not only by competition but also by contribution. There has been a surge of interest in prosocial motivation at work—i.e., the desire to benefit others through a job or task—as a driver of effort. A series of studies have linked prosocial motivation to higher job performance (e.g., De Dreu & Nauta 2009). Further, a meta-analysis of 168 samples with over 51,000 employees indicates that the time they spend helping others contributes as much to their performance reviews and promotions as does the quality of their work in their individual tasks (Podsakoff et al. 2009).

A first key mechanism is social capital. A number of studies have shown that prosocial motives and behaviors build status, trust, and goodwill (Anderson et al. 2020, Flynn 2003, Flynn et al. 2006, Grant et al. 2009). By establishing relationships and reputations as trustworthy, prosocially motivated employees elicit respect and reciprocity rather than envy and undermining from their colleagues. Research indicates that employees who are generous with their knowledge and connections are more likely to receive valuable information, which boosts their creativity (Černe et al. 2014), and to be welcomed into high-profile innovation projects (Obstfeld 2005). Prosocial motivation also buffers against the risks of being highly assertive (Hu et al. 2019): Assertive employees are more likely to emerge as leaders when they are driven to help others, in part because coworkers are less likely to be intimidated and more likely to feel comfortable going to them for advice. In a paper titled “Get Smarty Pants,” Kim & Glomb (2010) found that highly intelligent employees in a health care organization were more likely than other employees to be bullied and victimized by coworkers—unless they tended to be communal and other-oriented.

A second mechanism explaining the performance benefits of prosocial motivation is working harder. In a study of intensive care nurses in Wuhan, China, over 5 days of the COVID pandemic

Prosocial motivation:
the desire to expend effort to benefit others

Working harder:
exerting greater intensity or persistence of effort

Working smarter:

learning more effective task strategies or developing more creative ideas and solutions to problems

(Zhu et al. 2021), prosocial motivation predicted higher performance ratings from supervisors. This relationship was mediated by both the level and the variability of daily occupational calling: The desire to help others helped nurses maintain strong, stable beliefs in the meaning of their work. Prosocial motivation connects employees' jobs to a purpose larger than themselves, boosting the intensity and persistence of their effort. This pattern has been documented in studies of various adverse work conditions, showing that prosocially motivated employees are more likely to be proactive when working on ambiguous tasks (Grant & Rothbard 2013) and working for discouraging supervisors (Lebel & Patil 2018). In addition, when high self-esteem and self-efficacy put employees at risk for complacency, those who are prosocially motivated are more likely to maintain their effort and performance: They worry about letting others down if they fail and anticipate that others will be grateful if they succeed (Grant & Wrzesniewski 2010).

A third mechanism is working smarter. There is direct evidence that prosocial motivation can influence creativity. In field studies at a military base and a water treatment plant as well as a laboratory experiment (Grant & Berry 2011), intrinsic motivation only contributed to creativity when employees were also prosocially motivated. The necessity of others was a mother of invention: Employees who wanted to help others were more likely to engage in perspective taking, which enabled them to generate ideas that were ultimately useful to others, rather than pursuing novel ideas that were personally interesting to them. In a meta-analysis of 191 samples (Liu et al. 2016), prosocial motivation had unique explanatory power in predicting creativity over and above intrinsic motivation and creative self-efficacy—and also proved more relevant as a mediator of the relationship of supportive leadership with creativity. Further, because they are concerned with a broader set of goals, prosocially motivated employees are willing to share their knowledge even when time is tight (Connelly et al. 2019). As a result, they may gain unexpected learning benefits over time, as solving other people's problems can provide knowledge and fresh insights into their own problems (Shah et al. 2018).

A fourth mechanism is working safer. During the COVID-19 pandemic, prosocially motivated individuals were more likely to follow physical distancing guidelines, stay home when sick, and buy face masks (Campos-Mercade et al. 2020). By leading individuals to consider the consequences for others who might be vulnerable, prosocial motivation can encourage caution and discourage risky decisions. A widely studied decision trap is escalation of commitment to losing courses of action, whereby employees and managers continue investing time and money in failing initiatives. More than the economic factors of sunk costs, escalation is fueled by psychological forces: the desire to finish what was started, the fear of regretting walking away, and especially the motivation to defend one's ego and image (Sleesman et al. 2012). Research has shown that individuals who are concerned with their responsibility to others rather than their own achievements are less prone to escalation (Moon 2001). This is in part because prosocial motivation can make employees more receptive to negative feedback (Korsgaard et al. 1997), as they are more concerned with improving for others than proving themselves or protecting their egos.

Costs of Prosocial Motivation at Work

However, when it comes to escalation of commitment, prosocial motivation appears to be a double-edged sword. When people are working on a project that benefits others, they are often determined to make it successful, both because they care about the impact on others and because they want to maintain their moral self-image. As a result, they are more likely to escalate their commitment to failing prosocial initiatives than to personal initiatives (Schaumburg & Wiltermuth 2014).

This tendency toward moral justification can also have darker consequences. Helping others can become an excuse for unethical behavior: Research has shown that people are more willing to cheat when splitting the rewards with another person (Willemuth 2011); to grant themselves moral licenses to behave immorally after acting prosocially (Klotz & Bolino 2013); and to lie, withhold information, or even withhold issuing a refund to customers in order to benefit their organizations when they identify strongly with them and believe in reciprocity (Umphress et al. 2010). People are also more lenient with organizational transgressors who are covering up peers' unethical behaviors as opposed to their own (Kundro & Nurmohamed 2020). The desire to help others can enable people to rationalize otherwise indefensible actions.

Prosocial motivation may have costs beyond unethical behavior. Research suggests that there is a curvilinear relationship between helping behavior and productivity, such that employees who are "too generous" (Flynn 2003) may prioritize supporting others at the expense of their own tasks, which limits their salaries and promotion prospects (Bergeron et al. 2013). However, since these studies focused on helping behaviors, it is unclear whether the results were driven by excessive concern for others or insufficient concern for oneself. Whereas scholars have often assumed that self-interest and prosocial motivation are opposing ends of one continuum, research has revealed that these are two independent axes. Prosocial motivation is concern for helping others, which is separate from concern for one's own needs and goals (De Dreu & Nauta 2009). This means that prosocial motivation is not necessarily altruistic: Caring about others does not need to come at the expense of oneself (Amanatullah et al. 2008, Grant & Berry 2011). To understand the effects of prosocial motivation, it is critical to examine self-concern in tandem.

Self-concern and prosocial motivation are not merely independent; they can interact positively. Employees who are motivated both to do good and to look good engage in the highest levels of organizational citizenship behaviors, ranging from showing extra initiative in their jobs to voicing problems and solutions (Grant & Mayer 2009). Without concern for impression management, prosocially motivated employees may sacrifice themselves for others. When they care about their images as well as their impact, they are more likely to focus on helping in ways that advance their own goals as well as those of others.

The interest and enjoyment that employees find in their own work are also factors in their capacity to add value. In a pair of field studies (Grant 2008a), prosocial motivation only predicted more overtime hours worked by firefighters and more revenue generated by fundraising callers when they were also intrinsically motivated. When intrinsic motivation was lacking, this relationship reversed: Prosocial motivation predicted lower persistence and productivity. This is likely because feeling pressured to help is depleting, whereas wanting to help is energizing (Lin et al. 2019).

Energy also depends on the strategies that employees use to manage the time they spend helping others. In a study of salespeople (Rapp et al. 2013), those with poor time management skills struggled to stay on track with their calls if they engaged in too many helping behaviors. However, for those who were skilled at time management, more helping predicted making more calls.

Psychologists have also studied the consequences of spreading acts of generosity out versus batching them together in smaller chunks of time. In an experiment at a public university (Allan et al. 2018), employees found their work more meaningful if they were randomly assigned to batch together several acts of helping in one day rather than spread them out across the week. It may be that sprinkling prosocial acts throughout a week distracts from work and feels like merely a drop in the bucket, whereas batching them sharpens focus and strengthens a sense of impact.

Researchers have also identified both upsides and downsides of prosocial motivation by expanding the beneficiaries beyond end users outside the organization and colleagues inside the organization. The desire to support one's family is a common form of prosocial motivation across

Working collaboratively:

building social capital, status and trust, or goodwill

cultures. Research suggests that family motivation can energize effort—especially in jobs that lack intrinsic motivation—but may also create a sense of pressure that reduces creativity (Menges et al. 2017, Zhang et al. 2020).

Collective Consequences of Prosocial Motivation at Work

Whereas the above studies concentrated on the individual outcomes of prosocial motivation, research has also investigated the implications for groups and organizations. Since leaders have a disproportionate impact on their teams and workplaces, the majority of research on collective consequences has examined how leaders' prosocial and self-interested motivations influence team and organizational performance.

In leadership, prosocial motivation has been studied as servant leadership—i.e., the tendency for leaders to put employees' success, development, and well-being above their own and to uphold their responsibilities to the community and stakeholders in addition to shareholders. Acts of service and self-sacrifice motivate higher productivity among employees, especially if leaders are not prototypical of the group (van Knippenberg & van Knippenberg 2005). In a meta-analysis of 130 studies (Lee et al. 2020), servant leadership exhibited incremental validity over transformational, authentic, and ethical leadership in predicting higher team performance and citizenship behavior (as well as higher levels of individual task performance, citizenship, creativity, and voice, and lower levels of counterproductive behavior). Servant leaders motivated individuals and teams in part by earning trust, showing respect, and establishing procedural justice. For example, in an archival study of technology companies (Peterson et al. 2012), firms had higher returns on assets over the next three quarters—controlling for the prior quarter's returns—when CEOs were rated as servant leaders who cared more about the organization's success than their own and emphasized the importance of giving back to the community. This performance benefit of servant leadership was mediated by heightened organizational identification among CFOs, and it explained the performance costs of CEO narcissism. Further, experimental and field studies suggest that servant leadership is particularly important for motivating prosocial behaviors among more selfish employees (Wu et al. 2021).

CEO narcissism generally reflects an absence of prosocial motivation: It involves being egotistical and self-serving and putting one's own success above that of others and the organization. In a meta-analysis of narcissism and leadership (Grijalva et al. 2015), although narcissists seemed to be more likely to emerge as leaders in groups and organizations, this relationship was actually driven by the shared variance between extraversion and narcissism. When extraversion was accounted for, narcissism no longer predicted leader emergence. Further, narcissists were not more effective leaders, although the relationship between narcissism and effectiveness appeared to be curvilinear.

Since it is often difficult to survey leaders directly on narcissism, researchers have devised unobtrusive measures. CEO narcissism has been assessed in terms of the size of the CEO's photograph in annual reports, the use of first-person singular pronouns when discussing the company's success, and the gap in compensation between the CEO and the next-highest-paid executive—metrics which correlate highly with stock analyst ratings of CEO narcissism (Chatterjee & Hambrick 2007)—as well as the size of the CEO's signature and private jet usage (for a review, see Cragun et al. 2020). CEO narcissism has been linked to more volatile firm performance (Chatterjee & Hambrick 2007) as well as slower recovery of banks from the financial crisis (Buyl et al. 2019).

Several of the mechanisms at play are the mirror image of those discussed above to explain the benefits of individual prosocial motivation. It appears that narcissism can discourage leaders from working hard, working smart, working safely, and working collaboratively. Research has shown that narcissistic CEOs tend to listen to their cheerleaders while tuning out negative feedback

from critics as well as objective performance measures (Chatterjee & Hambrick 2011). They create riskier policies (Buyl et al. 2019) and pursue more grandiose and frequent acquisitions (Chatterjee & Hambrick 2007), and their firms place less emphasis on collaboration and integrity (O'Reilly et al. 2020) and are more likely to commit fraud (O'Reilly et al. 2018).

However, a recent meta-analysis focusing specifically on CEOs found that narcissism had relationships with firm financial performance and innovation that were variable but on average weakly positive (Cragun et al. 2020). This may be in part because of undetected curvilinearity or because the grandiosity of narcissists is not always self-centered. Whereas narcissists who exaggerate their agentic traits cause status conflict and reduce team performance, narcissists with more communal orientations may not (Wakeman & Peterson 2017). Similarly, researchers have found that employees perform better and companies innovate when leaders score high on both narcissism and humility, maintaining bold visions while acknowledging their own limitations and appreciating others' strengths (Owens et al. 2015). Whether or not narcissistic leadership has benefits, preventing harm may depend on organizations' abilities to activate their prosocial tendencies and rein in their selfish impulses.

Although psychologists have studied the many ways in which power can corrupt, there is also evidence that power reveals. Both field studies and experiments suggest that other-oriented values and identities buffer against the selfish use of power (DeCelles et al. 2012) and channel emotional intelligence toward helping behavior (Côté et al. 2011). Prosocially motivated people are more likely to use their authority, skills, and resources to benefit others.

In organizations, selfish tendencies emanate not only from the corner office. Selfish team members can poison the waters for all. In an imaginative study analyzing game-level longitudinal data from National Basketball Association (NBA) teams (Grijalva et al. 2020), researchers coded player narcissism from tweets. Teams with higher mean and maximum narcissism scores won fewer games, in part because they failed to improve in coordination over the course of the season. It was particularly problematic to have a narcissist in the key coordinating role of point guard: One bad apple was enough to spoil the barrel. In fact, direct comparisons of selfish and prosocial behaviors suggest that bad may be stronger than good: Deviant employees may bring more costs than generous employees bring benefits (Dunlop & Lee 2004).

Antecedents of Prosocial Motivation at Work

Given the benefits of prosocial motivation, psychologists and organizational scholars have examined how jobs can be designed to promote it. Whereas early research focused on the task architecture of jobs as a driver of intrinsic motivation, research on fostering prosocial motivation focuses on the relational architecture of jobs. Many employees hold jobs that have a positive impact on others but have little exposure to the ultimate beneficiaries of their work—the clients, customers, and end users who are affected by their tasks. Personalizing and humanizing one's job by establishing contact with those who benefit from it can have surprising motivational effects. For example, in a field experiment (Grant et al. 2007), university fundraising callers were randomly assigned to have contact with a single undergraduate student whose scholarship was supported by their work. After meeting with the student for just 10 minutes, the average caller spent 142% more minutes on the phone and raised 171% more money, whereas callers in the control conditions did not change significantly on these measures.

These effects were constructively replicated in a naturally occurring quasi-experiment with another sample of university fundraisers (Grant 2008b). Callers who happened to show up during a shift in which an anthropology graduate student spoke about how their fundraising supported her research more than doubled in weekly pledges and quintupled in weekly revenues, whereas those

in the control condition did not change significantly on these measures. In a pair of laboratory experiments (Grant et al. 2007), contact with beneficiaries motivated persistence by increasing awareness of impact and strengthening commitment to the beneficiary of the task. However, beneficiary contact only increased persistence when the work was high in task significance, that is, it had a meaningful impact on the beneficiary.

These effects have been extended to internal beneficiaries inside the organization. In a field experiment (Bellé 2012), nurses assembled more surgical kits per minute—and made fewer errors—after they had been randomly assigned to meet the health care practitioners who would use the kits. These effects were partially mediated by prosocial motivation: Beneficiary contact increased their desire to perform a public service and make a difference. Interestingly, prosocial motivation also moderated these effects: Nurses who initially had a stronger desire to help others were more responsive to beneficiary contact. A similar pattern emerged in a field experiment with fundraising callers: Those with strong prosocial values were more motivated by information about how their work benefited scholarship students (Grant 2008c).

When direct beneficiary contact is not possible, task significance itself can drive performance: When employees are aware of the positive impact of their jobs on others, they work harder and safer. In a field experiment with lifeguards (Grant 2008c), reading stories about other lifeguards performing rescues increased the hours that lifeguards worked and increased supervisor ratings of helpfulness in protecting and assisting guests. These effects were mediated by the lifeguards' perceptions of their work as having a greater impact on and value to pool guests.

In some cases, simply seeing a beneficiary may be enough to activate prosocial motivation and drive effort. In a field experiment using a within-subjects design (Turner et al. 2008), radiologists analyzed a computerized tomography (CT) exam and then another one 3 months later. Unbeknownst to them, it was the same scan, and they had been randomly assigned to have the patient's photo attached at one point in time but not the other. When the patient's photo was included, radiologists reported more empathy, demonstrated 46% higher diagnostic accuracy, and wrote 29% longer reports.

There is also evidence that merely being reminded of beneficiaries can motivate safety behaviors. In a pair of field experiments at a hospital (Grant & Hofmann 2011a), medical professionals were more likely to wash their hands when signs on the wall emphasized that hand hygiene would protect patients from diseases as opposed to protecting themselves from diseases. In units randomly assigned to signs emphasizing prosocial consequences, soap and gel use increased by 45% and hand hygiene compliance increased by over 10%, whereas signs emphasizing personal consequences had no impact compared to a control group. When considering our own health, we may fall victim to the illusion of invulnerability; when focusing on how our actions affect others who are vulnerable, we are more realistic about risk. However, the novelty of the message may be critical here. During the first month of the COVID-19 pandemic, intentions to engage in prevention behaviors like physical distancing and handwashing were stronger when prosocial consequences (i.e., “Don't spread it”) rather than personal consequences (i.e., “Don't get it”) were emphasized (Jordan et al. 2020). However, a month later, this difference in effectiveness between the two messages evaporated. Once the public and personal benefits of prevention had been widely communicated, it was believing in the public threat—not being reminded of the public threat or believing in the personal threat—that mattered.

In light of the motivational effects of connecting the dots between employees' work and a prosocial impact, an important question is who should connect the dots. In a naturally occurring field quasi-experiment with fundraising callers testing the effects of different sources of prosocial messages (Grant & Hofmann 2011b), a speech from a scholarship student increased revenue, whereas speeches from two leaders did not. In a laboratory experiment, before editing a graduate

student's research paper, participants watched one of two different versions of a woman describing how the paper would help the student get a job. In the two conditions, the same woman delivered an identical message; the only difference was whether she introduced herself as a beneficiary (the student who wrote the paper) or a leader (the director of the program helping students get jobs). Participants caught more errors—and gave better feedback and advice—when the message came from the beneficiary than when it came from the leader. This effect was mediated by suspicion: Participants were more skeptical of the message when it came from the leader, knowing that she had an ulterior motive for convincing them to work harder. Additional field studies suggest that if leaders and managers are not perceived as trustworthy, employees may doubt the prosocial impact of their work, and the performance of prosocially motivated employees is likely to suffer (Grant & Sumanth 2009). A subsequent experiment showed that leaders were just as effective as beneficiaries in highlighting an achievement message that emphasized an organization's success; the beneficiary, however, was a more compelling source of a prosocial message that emphasized an organization's impact (Grant & Hofmann 2011b).

This research suggests that instead of preaching about prosocial impact, leaders are well suited to articulate an organizational vision but may be better off “outsourcing inspiration” about impact to the beneficiaries of that vision. In a quasi-experiment at a call center and a survey study in a government organization (Grant 2012), transformational leadership was more likely to contribute to revenue and performance evaluations when employees interacted with the beneficiaries of their work. Beneficiary contact made the prosocial impact of leaders' visions more vivid, establishing a credible link between leaders' words and the organization's deeds.

Beyond relational job design and leadership, some studies have explored how organizational events and structures influence prosocial motivation. For example, events that trigger mortality salience can also elicit prosocial motivation at work by reminding employees that their time is finite, encouraging them to focus on making lasting contributions to people and organizations that represent their values and identities. In an archival study of public firms (Chen et al. 2019), after CEOs experienced the death of a board member, their firms increased their corporate social responsibility investments. In experiments, merely thinking about death was sufficient to activate legacy motivation, which spurred participants to allocate more resources to future generations, reversing typical temporal discounting patterns (Wade-Benzoni et al. 2012).

Goals and incentive structures can also influence prosocial motivations and behaviors. For example, when difficult goals are paired with incentives, individuals are less likely to help others (Wright et al. 1993). Some studies of people performing prosocial tasks suggest that nonfinancial rewards are more effective at eliciting effort than financial rewards (Ashraf et al. 2012). This may be because monetary incentives crowd out image motivation—the desire to be well regarded by others (Ariely et al. 2009)—or because they crowd out intrinsic motivation, though evidence has been conflicting (Ashraf et al. 2012). One possible workaround is offering employees a prosocial rather than a personal bonus, whereby rewards are spent on others rather than oneself. Several experiments have shown that when employees receive prosocial bonuses—e.g., money to donate to charity or spend on teammates—they feel happier and perform better (Anik et al. 2013). One of the underlying mechanisms may be the emergence of prosocial norms in the team.

Team cultures are more than the sum of their individual parts, and evidence suggests that it is possible to cultivate prosocial motivation in a team beyond assembling a group of prosocial individuals. In a field study of teams across a variety of industries in the United States and China (Hu & Liden 2015), team prosocial motivation—the shared desire to help others—predicted team performance ratings even after controlling for the prosocial motivations of individual team members. Members of prosocially motivated teams were also more likely to stay in the organization. In the field study as well as a laboratory experiment, team prosocial motivation enhanced performance

by promoting cooperation and a sense of team viability, but only when task interdependence was high. This suggests that the collective motivation to help others is beneficial in aligning a team toward achieving a meaningful goal when the work requires collaboration.

MOTIVATION IN COLLABORATION

A growing body of research recognizes that the dynamics of collaboration influence motivation. Motivation can spill over between colleagues, within teams, and from leaders to teams, with surprisingly far-reaching effects on performance.

Contagion and Motivation

Along with exploring the prosocial motivation of teams, researchers have examined how prosocial motivation spreads within teams and organizations. In a field experiment at a Spanish organization (Chancellor et al. 2018), when employees were randomly assigned to receive acts of kindness from colleagues over 4 weeks, they paid it forward with 278% more prosocial behaviors than those in the control group. Evidence suggests that initially, employees may follow prosocial norms due to image and reputational concerns, but over time, they maintain these norms due to gratitude (Baker & Bulkley 2014). When employees receive help from others, appreciation can motivate them to pay it forward. Gratitude may also play an important role in productivity: In fields ranging from sales to sports, paying nonstars generously cultivated gratitude and closed the performance gap between stars and nonstars (Baron 2013). However, gratitude also has a dark side. Across four experiments, participants who were induced to feel grateful were more likely to obey a command to crush worms in a grinder (Tong et al. 2020). Feeling gratitude can make employees more concerned about maintaining social harmony and thereby more vulnerable to social influence.

It is not just feeling grateful that can influence motivation; it is also being thanked. In a field experiment (Grant & Gino 2010), when a senior manager visited a call center to thank employees for their work, their effort increased by more than 50% in the following week, whereas the control group did not change significantly. In two lab experiments, after participants helped a student improve his job application cover letters, just eight words of gratitude from him were enough to more than double the odds that they would help him again in the next 3 days—and also that they would help another student. This effect was mediated by social worth, not self-efficacy: Gratitude motivated individuals by making them feel valued as opposed to boosting their feelings of competence. When employees do not feel that their work is appreciated or even understood by the beneficiaries of their jobs, the proactivity of those who are prosocially motivated is likely to suffer (Patil & Lebel 2019).

Another less familiar social emotion that can influence work motivation is elevation: the feeling of being lifted up by the moral excellence or virtuous acts of others. Research has shown that leaders can influence their followers' ethical behaviors through moral elevation. In a field study of nurses at a public hospital (Vianello et al. 2010), when leaders displayed interpersonal fairness or self-sacrifice, employees experienced elevation and demonstrated greater affective organizational commitment and interpersonal and organizational citizenship behaviors.

Although elevation has rarely appeared directly in the research, there is an extensive literature on transformational and charismatic leadership as sources of work motivation. Meta-analytic evidence shows that when leaders articulate an inspiring vision, role-model admirable values, offer intellectual stimulation, and show individual consideration, teams and organizations perform better (Wang et al. 2011). This is in part because employees are motivated to work harder and smarter (Dvir et al. 2002), safer (Clarke 2013), and more collaboratively (Carton et al. 2014). For

example, in a study of hospitals (Carton et al. 2014), heart attack readmissions rates were lower—and financial performance was higher—when leaders used substantial vision imagery combined with a small set of values. In a follow-up experiment, the combination of vivid visions and few values activated a shared sense of purpose, enhancing coordination and subsequently improving performance. Further, role models can inspire employees to aim higher than they would if they set their own goals (Lockwood & Kunda 1999), and transformational leaders are more likely to inject meaning into the jobs that employees do (Piccolo & Colquitt 2006). Interestingly, though, transactional leadership—particularly setting clear expectations and rewarding performance—is just as consequential (Judge & Piccolo 2004). When it comes to motivation, management may be an underrated skill of leadership.

Considerable research has demonstrated that leaders' and coworkers' emotional displays can be contagious (Barsade 2002). Although the general trend has been to focus on the motivational benefits of positive emotional contagion and the costs of negative emotional contagion, there are interesting exceptions. For example, in an experiment that manipulated positive versus negative mood among leaders (Sy et al. 2005), groups caught their leaders' mood. When the leader was in a positive rather than a negative mood, groups were rated as demonstrating higher coordination but lower effort. It may be that these effects were driven by activation as well as valence: The positive mood manipulation was a funny video clip, while the negative mood manipulation was a clip from a documentary about social injustice that may have elicited more intense feelings of anger or righteous indignation.

Research has explored how expressions of anger by others can influence motivation, and there, too, the intensity matters. In a study of hundreds of locker room speeches at halftime by high school and college basketball coaches (Staw et al. 2019), teams performed best when coaches were moderately angry. The motivational effects of expressions of anger depend not only on the level of anger but also on the type of effort required. In three experiments (Miron-Spektor et al. 2011), expressions of anger motivated participants to work harder but not smarter. Individuals who listened to an angry customer were more successful in solving analytic problems—but less successful in solving creative problems—than those who listened to an emotionally neutral customer. Further, responses to expressions of anger vary based on the personality of the recipient. In one experiment comparing leader expressions of anger and of happiness (Van Kleef et al. 2010), disagreeable teams performed better under angry leaders, while agreeable teams performed better under happy leaders. Fit between leader emotions and employee traits can be consequential: Whereas disagreeable employees may be energized by conflict, agreeable employees are more motivated by harmony.

Expressions of anger and contempt can have distinct motivational effects. In a business strategy simulation (Melwani & Barsade 2011), participants who were randomly assigned to receive contemptuous feedback from a virtual partner performed better than those who received angry feedback, but they also responded more aggressively to the partner. Subsequent experiments showed that the surprising performance benefits of contempt were mediated by heightened emotional activation and reduced implicit self-esteem, and they were most pronounced when participants had low status.

Although being treated with disrespect may temporarily motivate some employees to prove others wrong, the motivational consequences of disrespect can be dire. In an experiment during a training simulation for neonatal intensive care units (Riskin et al. 2015), teams that were randomly assigned to be insulted by a health expert had lower diagnostic performance and procedural performance. These effects were mediated by reduced information sharing and help seeking, respectively. Experiments show that rudeness decreases performance on both routine and creative tasks by disrupting task focus (Porath & Erez 2007): Individuals shift their attention away from the task and toward managing their negative emotions.

Social Proximity and Motivation

Although research on contagion has mostly focused on how emotions spread, recent studies have highlighted how the spread of motivation itself can occur between colleagues in close proximity. Physical proximity is one key factor. In a study of several thousand employees in a technology company (Housman & Minor 2016), the quantity and quality of employees' work were predicted by the performance of the coworkers who happened to be sitting near them. Strong performers were not negatively affected by sitting near weak performers, whereas weak performers were more productive—and produced better work—when sitting near high performers. Complementary pairings of strong and weak performers increased quality by just under 1%, increased the speed of work by 13%, and reduced the frequency of unsolved tasks by almost 17%. Importantly, these performance spillover benefits did not persist once the desks were rearranged, suggesting that they were driven by motivation rather than learning.

Similarly, in a study of professional golfers competing in the Masters Tournament (Flynn & Amanatullah 2012), golfers performed better when they were paired with high-performing peers, even after controlling for their performance in the previous round. Although the mechanisms are unclear, being in the immediate presence of a high performer appears to motivate individuals to perform better themselves. However, these spillover effects are not always positive; ethical transgressions may be contagious as well. For example, after their firms merge, financial advisors are 37% more likely to commit misconduct if they encounter a new coworker with a history of misconduct (Dimmock et al. 2018).

When physical proximity is not possible, temporal proximity is another important consideration. Remote teams are more productive and creative when their interactions follow a pattern of “burstiness”—i.e., alternating periods of silence for individual work with bursts of rapid-fire communication among team members (Riedl & Woolley 2016). One mechanism underlying the value of burstiness is attention: Team members are energized when they know their colleagues are online ready to respond to their work. In virtual collaborations, the spillover of motivation in teams may hinge more on the intensity of communication than on its frequency.

A common concern about remote work is that employees will be less motivated to perform and collaborate. Before the pandemic, a meta-analysis of telecommuting (Gajendran & Harrison 2007) suggested that as long as employees were in the office together at least half of the week, there were no costs to performance or coworker relationships. In a recent field experiment using a within-subject design at a life sciences firm (Sherman 2019), employees reported performing better during weeks in which they worked from home. The perceived performance effects were heightened for working mothers, who experienced less work–family conflict at home, which may have helped with focus of attention and energy. Once again, there were no detrimental effects on coordination or helping between coworkers.

However, remote work may be a double-edged sword, particularly if there are disparities in how often different employees are in the office. In a field experiment at a call center (Bloom et al. 2015), when employees were randomly assigned to work from home, their performance increased by 13.5%. Motivation was a key factor: From home, employees worked harder (making more calls per minute) and longer (working more minutes per shift and taking fewer breaks and sick days). However, despite being more productive, employees working from home were half as likely to be promoted, presumably because they lacked face time with the managers.

A substantial concern in remote work is that supervisors might micromanage the behaviors of their employees, tracking keystrokes and camera usage. Research on face-to-face teams suggests that micromanaging is likely to have a demotivating effect. In an 18-month experiment in hospitals (Tucker & Singer 2015), management by walking around had a negative effect on performance. Qualitative work suggested that the presence of managers may have interfered with employees'

empowerment to take action. There is evidence that training can be effective in educating managers on how to empower and support the autonomy of their employees (Jungert et al. 2018), even in cultures with high power distance. In a field experiment in the United Arab Emirates (Martin et al. 2013), training leaders in both directive and empowering leadership motivated their teams to perform their tasks more effectively, but the teams were only motivated to become more proactive when their leaders were trained in empowerment.

The size of teams has long loomed large as a force in motivation. Social loafing climbs with the size of the group (Karau & Williams 1993)—due not only to coordination losses but also to motivation losses. In large teams, individuals increasingly feel that they can rely on colleagues to do more of the work and that their own contributions are not needed. Recent research has highlighted that team size also brings relational losses. In a longitudinal study (Mueller 2012), knowledge workers performed worse in large teams in part because they perceived support as less available—even after controlling for motivation and coordination. This research suggests that in larger groups, employees' performance can be inhibited in part by their colleagues' perceived and actual motivations to provide help and support.

When employees are friends with their colleagues, they are more motivated to overcome the barriers to seeking help and support (Lee & Duffy 2019). In a laboratory experiment (Jehn & Shah 1997), groups of friends outperformed groups of acquaintances in both cognitive and effort tasks. Friends made better decisions and worked more productively together, primarily due to heightened commitment and cooperation. However, working with friends can also be a mixed blessing. In a field experiment at a fruit-picking farm (Bandiera et al. 2010), compared to days in which they had no social ties with their coworkers, employees were more productive on days in which they worked alongside more productive friends but less productive on days in which they worked alongside less productive friends. Even though it could increase or decrease their pay by 10%, employees were willing to increase or decrease their effort to match the productivity of their friends.

Motivation to Lead

For more than a century, organizational scholars have been fascinated by leadership emergence and effectiveness: Who becomes a leader, and who succeeds as a leader? In the past decade, psychologists have identified individual differences in the motivation to lead—i.e., the desire to attain and excel in positions of authority (Chan & Drasgow 2001). The motivation to lead can stem from a variety of sources, ranging from duty to identity (DeRue & Ashford 2010) and from dominance to prestige (Maner & Case 2016), and it appears to have some roots in power, achievement, and affiliation motives. In a meta-analysis, the motivation to lead predicted leadership emergence as well as effectiveness over and above personality traits and values (Badura et al. 2020).

However, it is possible to be motivated to lead while also having hesitations about the role (Tussing 2018). Individuals may be excited about leading but also feel reluctant due to concerns about conflicting priorities at work or at home, reservations about the loss of autonomy, self-doubt about qualifications, or fears around having responsibility for the fate of others. Because reluctant individuals are less inclined to seek and be chosen for positions of power, they tend to be underrepresented in leadership roles.

New research has overcome this selection problem by studying leadership roles that are rotated regardless of individual interest. In a study of nurses who rotate in and out of the charge nurse role during different shifts (Tussing 2018), there was an inverted U-shaped relationship between their reluctance to lead and their supervisors' evaluations of their leadership effectiveness. Even after controlling for their motivation to lead, nurses who were slightly hesitant at the helm were rated as better leaders, and this relationship was partially mediated by empowering leadership. It

appears that some reluctance may encourage leaders to share authority with their teams instead of claiming the mantle all for themselves. As Plato (*Republic*, 520d) wrote, “The State in which the rulers are most reluctant to govern is always the best and most quietly governed, and the State in which they are most eager, the worst.” Or, in the words of Douglas Adams (1995, p. 197), “Those people who must *want* to rule people are, ipso facto, those least suited to do it.”

MOTIVATING FUTURE RESEARCH

As research on social motivation at work blooms, there is an abundance of novel questions to energize further inquiry. Examining the separate bodies of research on competition, prosocial motivation, and collaboration in tandem highlights the lack of consensus around the content of social motivation at work. A comprehensive framework is needed to organize different sources and targets of social motivation. For example, scholars have adapted theories of equity sensitivity and relational models to explore how employees differ in their motivations to give, take, or match evenly in work relationships (Grant 2013, Utz et al. 2014), but little research has directly adopted this framework. A broader opportunity exists to organize social motivation on two axes: intrinsic versus extrinsic and self-concern versus other-concern. For example, the desire to learn from others and the desire to gain power and status over others both focus on outcomes for the self, but they differ in source: The former is more intrinsic, whereas the latter is more extrinsic. Similarly, prosocial motivation is more intrinsic when the goal is to help others and more extrinsic when the goal is to fulfill one’s duties and obligations to others. This type of conceptual framework may serve as a foundation for synthesizing and advancing knowledge across the different silos.

In studying the consequences of social motivations at work, researchers have mostly focused on linear effects, but there are some indications of curvilinear effects (Bothner et al. 2012, Flynn 2003, Rapp et al. 2013, Tussing 2018). As the motivations to beat competitors, help beneficiaries, and produce as much as one’s colleagues increase, do the benefits begin to satiate while the costs escalate? Moreover, surprisingly little attention has been paid to outcomes beyond work: What sacrifices do leaders and employees make when they are dead set on defeating an archrival or fiercely committed to helping a beloved colleague? Although there may be some energy spillover benefits (Sonnentag & Grant 2012), there may be real costs for one’s family, friendships, and even health.

From a research design standpoint, the extensive use of field experiments has proven conducive to both internal and external validity. However, the heavy reliance on data from sports and call centers raises important questions about generalizability. When is status loss motivating versus demotivating? When are employees inspired rather than intimidated by strong competitors and collaborators? In jobs and teams across industries, how often do rivalries become a major source of motivation, and where are these effects the strongest? For example, in innovation, where there is a premium on being the first to a discovery, focus and energy may be fueled by the anticipated pride of outperforming the competition. In the prosocial domain, there are open questions about who employees are most motivated to help: Are the most inspiring beneficiaries those who evoke empathy rather than envy through a combination of high need, novel stories, and authentic delivery? What does it take to extend prosocial motivation beyond one’s ingroup to outgroup beneficiaries of different races, genders, sexual orientations, and occupations? More broadly, it remains to be seen whom employees are determined to best versus better.

We also hope to see more research on critical contingencies that moderate the effects of social motivation at work. Time has been almost entirely neglected by the existing studies: What causes the motivation to defeat a rival, help a beneficiary, or become a leader to be sustained rather than to fade? How do these motivations change over the course of a job, a collaboration, and a career?

Research on generativity suggests that prosocial motivation often climbs around midlife (Peterson & Stewart 1996), as employees become more concerned about their legacies and more interested in helping and mentoring the next generation.

In addition, little research has investigated the role of culture in social motivation at work. How do different team, organizational, and national cultures influence competitive and collaborative motivations? How will managers approach motivation differently as work goes increasingly virtual? Are the techniques involved in communicating an inspiring vision different? How will employees find new ways to motivate themselves as the relational and task architectures of their jobs fundamentally change? If employees are increasingly separated from the beneficiaries of their work, will they stay motivated by crafting their jobs (Wrzesniewski & Dutton 2001) to have video calls with clients and customers?

There is a great deal of room for scholars to explore the role of gender and racial differences. For example, although some research has shown that on average, compared to men, women are less eager to compete and less likely to perform well in competition, this appears to be driven not by women's perceiving more costs of competition but by their perceiving fewer benefits (Kesebir et al. 2019). Women are also more likely to face pressures to volunteer for and accept requests to work on tasks that are prosocial but not promotable (Babcock et al. 2017). Further, research has shown that although stereotype threat can cause anxiety and disrupt cognitive processing, individuals sometimes demonstrate stereotype reactance (Kray et al. 2004), whereby they are motivated to prove the stereotype wrong. Women and racial minorities may even become trailblazers who advocate not only for themselves but also create opportunities for other members of their groups (Knowlton 2021). More research is needed to understand how stereotypes and prejudice affect the motivation of minority groups.

In hierarchical relationships, researchers have largely assumed that motivation flows from leaders to followers, overlooking how followers can influence the effort that leaders invest in their work. Similar top-down assumptions plagued developmental and educational psychology until researchers began to document the bottom-up influences of children on parents' motivation and of students on teachers' motivation. Scholars have offered clues that mentors may be demotivated by toxic proteges (Feldman 1999). Conversely, to the extent that managers view their teams as the primary beneficiaries of their work, managers may define their sense of purpose in terms of promoting the success and development of their teams. As organizations continue to flatten, we encourage systematic investigations of upward contagion. The Latin root of the word "motivation" is "to move," and we are all capable of moving—and being moved by—the people in our work lives.

SUMMARY POINTS

1. Work motivation is inherently social: We are motivated by our competitors, colleagues, clients, customers, friends, and even complete strangers.
2. Until recently, organizational scholars, psychologists, and social scientists paid little attention to the social forces that influence work motivation.
3. Social motivation has been studied across competitive, prosocial, and collaborative contexts.
4. Each interpersonal context may serve as a double-edged sword, with both productive and counterproductive implications for work motivation and performance.

5. Competing against rivals can amplify effort but also encourage unethical behavior, and being the underdog rather than the favorite can strengthen the motivation to prove others wrong.
6. Four key mechanisms explain why prosocial motivation can lead to higher work performance—working harder, working smarter, working safer, and working more collaboratively—but there are important boundary conditions for these effects.
7. Motivation can be contagious between colleagues, within teams, and from leaders to teams, with wide-ranging effects on performance.
8. Examining the separate bodies of research on competition, prosocial motivation, and collaboration in tandem highlights avenues for gaining a broader and deeper understanding of the relational underpinnings of effort at work.

FUTURE ISSUES

1. A comprehensive conceptual framework is needed to synthesize the different sources and targets of social motivation. This framework could potentially organize social motivation along two axes: intrinsic versus extrinsic and self-concern versus other-concern.
2. There is an opportunity to broaden knowledge about the consequences of social motivations at work by thoroughly examining curvilinear effects as well as secondary effects beyond the confines of the workplace.
3. Although the extensive use of field experiments has proven conducive to both internal and external validity, the heavy reliance on data from sports and call centers raises important questions about generalizability.
4. Research on critical contingencies that moderate the effects of social motivation at work should continue and expand to explore factors neglected to date, such as time and organizational and national cultures.
5. There is a great deal of room for scholars to explore the role of gender and racial differences (including prejudice and stereotypes) in competitive, prosocial, collaborative, and leadership motivations.
6. Researchers have largely assumed that motivation flows top-down from leaders to followers, overlooking how followers can influence the effort that leaders invest in their work from the bottom up.

DISCLOSURE STATEMENT

The authors are not aware of any affiliations, memberships, funding, or financial holdings that might be perceived as affecting the objectivity of this review.

LITERATURE CITED

- Adams D. 1995. *The Restaurant at the End of the Universe*. New York: Del Rey
- Allan BA, Duffy RD, Collisson B. 2018. Helping others increases meaningful work: evidence from three experiments. *J. Couns. Psychol.* 65:155–65

- Amanatullah ET, Morris MW, Curhan JR. 2008. Negotiators who give too much: unmitigated communion, relational anxieties, and economic costs in distributive and integrative bargaining. *J. Pers. Soc. Psychol.* 95:723–38
- Anderson C, Sharps DL, Soto CJ, John OP. 2020. People with disagreeable personalities (selfish, combative, and manipulative) do not have an advantage in pursuing power at work. *PNAS* 117:22780–86
- Anik L, Akinin LB, Norton MI, Dunn EW, Quoidbach J. 2013. Prosocial bonuses increase employee satisfaction and team performance. *PLOS ONE* 8:e75509
- Ariely D, Bracha A, Meier S. 2009. Doing good or doing well? Image motivation and monetary incentives in behaving prosocially. *Am. Econ. Rev.* 99:544–55
- Ashraf N, Bandiera O, Jack BK. 2012. *No margin, no mission? A field experiment on incentives for pro-social tasks.* Discuss. Pap. 8834, Cent. Econ. Policy Res., London
- Babcock L, Recalde MP, Vesterlund L, Weingart L. 2017. Gender differences in accepting and receiving requests for tasks with low promotability. *Am. Econ. Rev.* 107:714–47
- Badura KL, Grijalva E, Galvin BM, Owens BP, Joseph DL. 2020. Motivation to lead: a meta-analysis and distal-proximal model of motivation and leadership. *J. Appl. Psychol.* 105:331–54
- Baker WE, Bulkley N. 2014. Paying it forward versus rewarding reputation: mechanisms of generalized reciprocity. *Organ. Sci.* 25:1493–510
- Bandiera O, Barankay I, Rasul I. 2010. Social incentives in the workplace. *Rev. Econ. Stud.* 77:417–58
- Barankay I. 2012. *Rank incentives: evidence from a randomized workplace experiment.* Work. Pap., Univ. Penn., Philadelphia
- Baron JN. 2013. Empathy wages? Gratitude and gift exchange in employment relationships. *Res. Organ. Behav.* 33:113–34
- Barrick MR, Stewart GL, Piotrowski M. 2002. Personality and job performance: test of the mediating effects of motivation among sales representatives. *J. Appl. Psychol.* 87:43–51
- Barsade SG. 2002. The ripple effect: emotional contagion and its influence on group behavior. *Adm. Sci. Q.* 47:644–75
- Bellé N. 2012. Experimental evidence on the relationship between public service motivation and job performance. *Public Adm. Rev.* 73:143–53
- Bendersky C, Shah NP. 2012. The cost of status enhancement: performance effects of individuals' status mobility in task groups. *Organ. Sci.* 23:308–22
- Bergeron DM, Shipp AJ, Rosen B, First SA. 2013. Organizational citizenship behavior and career outcomes: the cost of being a good citizen. *J. Manag.* 39:958–84
- Bloom N, Liang J, Roberts J, Ying ZJ. 2015. Does working from home work? Evidence from a Chinese experiment. *Q. J. Econ.* 130:165–218
- Bothner MS, Kim Y-K, Smith EB. 2012. How does status affect performance? Status as an asset versus status as a liability in the PGA and NASCAR. *Organ. Sci.* 23:416–33
- Brooks AW, Huang K, Abi-Esber N, Buell RW, Huang L, Hall B. 2019. Mitigating malicious envy: why successful individuals should reveal their failures. *J. Exp. Psychol. Gen.* 148:667–87
- Buyl T, Boone C, Wade JB. 2019. CEO narcissism, risk-taking, and resilience: an empirical analysis in U.S. commercial banks. *J. Manag.* 45:1372–400
- Campos-Mercade P, Meier A, Schneider F, Wengström E. 2020. *Prosociality predicts health behaviors during the COVID-19 pandemic.* Work. Pap. 346, Univ. Zurich, Zurich
- Carton AM, Murphy C, Clark JR. 2014. A (blurry) vision of the future: how leader rhetoric about ultimate goals influences performance. *Acad. Manag. J.* 57:1544–70
- Černe M, Nerstad CGL, Dysvik A, Škerlavaj M. 2014. What goes around comes around: knowledge hiding, perceived motivational climate, and creativity. *Acad. Manag. J.* 57:172–92
- Chambers CR, Baker WE. 2020. Robust systems of cooperation in the presence of rankings: how displaying prosocial contributions can offset the disruptive effects of performance rankings. *Organ. Sci.* 31:287–307
- Chan KY, Drasgow F. 2001. Toward a theory of individual differences and leadership: understanding the motivation to lead. *J. Appl. Psychol.* 86:481–98
- Chancellor J, Margolis S, Jacobs Bao K, Lyubomirsky S. 2018. Everyday prosociality in the workplace: the reinforcing benefits of giving, getting, and glimpsing. *Emotion* 18:507–17

- Chatterjee A, Hambrick DC. 2007. It's all about me: narcissistic chief executive officers and their effects on company strategy and performance. *Adm. Sci. Q.* 52:351-86
- Chatterjee A, Hambrick DC. 2011. Executive personality, capability cues, and risk taking: how narcissistic CEOs react to their successes and stumbles. *Adm. Sci. Q.* 56:202-37
- Chen G, Crossland C, Huang S. 2019. That could have been me: director deaths, CEO mortality salience, and corporate prosocial behavior. *Manag. Sci.* 66:3142-61
- Clarke S. 2013. Safety leadership: a meta-analytic review of transformational and transactional leadership styles as antecedents of safety behaviours. *J. Occup. Organ. Psychol.* 86:22-49
- Connelly CE, Černe M, Dysvik A, Škerlavaj M. 2019. Understanding knowledge hiding in organizations. *J. Organ. Behav.* 40:779-82
- Côté S, DeCelles KA, McCarthy JM, Van Kleef GA, Hideg I. 2011. The Jekyll and Hyde of emotional intelligence: Emotion-regulation knowledge facilitates prosocial and interpersonally deviant behavior. *Psychol. Sci.* 22:1073-80
- Cragun O, Olsen K, Wright PMW. 2020. Making CEO narcissism research great: a review and meta-analysis of CEO narcissism. *J. Manag.* 46:908-36
- De Dreu CKW, Nauta A. 2009. Self-interest and other-orientation in organizational behavior: implications for job performance, prosocial behavior, and personal initiative. *J. Appl. Psychol.* 94:913-26
- DeCelles KA, DeRue DS, Margolis JD, Ceranic TL. 2012. Does power corrupt or enable? When and why power facilitates self-interested behavior. *J. Appl. Psychol.* 97:681-89
- DeRue DS, Ashford SJ. 2010. Who will lead and who will follow? A social process of leadership identity construction in organizations. *Acad. Manag. Rev.* 35:627-47
- Diebels KJ, Leary MR, Chon D. 2018. Individual differences in selfishness as a major dimension of personality: a reinterpretation of the sixth personality factor. *Rev. Gen. Psychol.* 22:367-76
- Dimmock SG, Gerken WC, Graham NP. 2018. Is fraud contagious? Coworker influence on misconduct by financial advisors. *J. Finance* 73:1417-50
- Duffy MK, Scott KL, Shaw JD, Tepper BJ, Aquino K. 2012. A social context model of envy and social undermining. *Acad. Manag. J.* 55:643-66
- Dunlop PD, Lee K. 2004. Workplace deviance, organizational citizenship behavior, and business unit performance: The bad apples do spoil the whole barrel. *J. Organ. Behav.* 25:67-80
- Dutton JE, Duncan RB. 1987. The creation of momentum for change through the process of strategic issue diagnosis. *Strateg. Manag. J.* 8:279-95
- Dvir T, Eden D, Avolio BJ, Shamir B. 2002. Impact of transformational leadership on follower development and performance: a field experiment. *Acad. Manag. J.* 45:735-44
- Feldman DC. 1999. Toxic mentors or toxic proteges? A critical re-examination of dysfunctional mentoring. *Hum. Resour. Manag. Rev.* 9:247-78
- Flynn FJ. 2003. How much should I give and how often? The effects of generosity and frequency of favor exchange on social status and productivity. *Acad. Manag. J.* 46:539-53
- Flynn FJ, Amanatullah ET. 2012. Psyched up or psyched out? The influence of coactor status on individual performance. *Organ. Sci.* 23:402-15
- Flynn FJ, Reagans RE, Amanatullah ET, Ames DR. 2006. Helping one's way to the top: Self-monitors achieve status by helping others and knowing who helps whom. *J. Pers. Soc. Psychol.* 91:1123-37
- Gajendran RS, Harrison DA. 2007. The good, the bad, and the unknown about telecommuting: meta-analysis of psychological mediators and individual consequences. *J. Appl. Psychol.* 92:1524-41
- Garcia SM, Tor A. 2007. Rankings, standards and competition: task versus scale comparison. *Organ. Behav. Hum. Decis. Process.* 102:95-108
- Garcia SM, Tor A. 2009. The N-effect: more competitors, less competition. *Psychol. Sci.* 20:871-77
- Grant AM. 2008a. Does intrinsic motivation fuel the prosocial fire? Motivational synergy in predicting persistence, performance, and productivity. *J. Appl. Psychol.* 93:48-58
- Grant AM. 2008b. Employees without a cause: the motivational effects of prosocial impact in public service. *Int. Public Manag. J.* 11:48-66
- Grant AM. 2008c. The significance of task significance: job performance effects, relational mechanisms, and boundary conditions. *J. Appl. Psychol.* 93:108-24

- Grant AM. 2012. Leading with meaning: beneficiary contact, prosocial impact, and the performance effects of transformational leadership. *Acad. Manag. J.* 55:458–76
- Grant AM. 2013. *Give and Take: Why Helping Others Drive Our Success*. New York: Viking
- Grant AM, Berry JW. 2011. The necessity of others is the mother of invention: intrinsic and prosocial motivations, perspective taking, and creativity. *Acad. Manag. J.* 54:73–96
- Grant AM, Campbell EM, Chen G, Cottone K, Lapedis D, Lee K. 2007. Impact and the art of motivation maintenance: the effects of contact with beneficiaries on persistence behavior. *Organ. Behav. Hum. Decis. Process.* 103:53–67
- Grant AM, Gino F. 2010. A little thanks goes a long way: explaining why gratitude expressions motivate prosocial behavior. *J. Pers. Soc. Psychol.* 98:946–55
- Grant AM, Hofmann DA. 2011a. It's not all about me: motivating hand hygiene among health care professionals by focusing on patients. *Psychol. Sci.* 22:1494–99
- Grant AM, Hofmann DA. 2011b. Outsourcing inspiration: the performance effects of ideological messages from leaders and beneficiaries. *Organ. Behav. Hum. Decis. Process.* 116:173–87
- Grant AM, Mayer DM. 2009. Good soldiers and good actors: prosocial and impression management motives as interactive predictors of affiliative citizenship behaviors. *J. Appl. Psychol.* 94:900–12
- Grant AM, Parker SK, Collins CG. 2009. Getting credit for proactive behavior: Supervisor reactions depend on what you value and how you feel. *Pers. Psychol.* 62:31–55
- Grant AM, Rothbard NP. 2013. When in doubt, seize the day? Security values, prosocial values, and proactivity under ambiguity. *J. Appl. Psychol.* 98:810–19
- Grant AM, Sumanth JJ. 2009. Mission possible? The performance of prosocially motivated employees depends on manager trustworthiness. *J. Appl. Psychol.* 94:927–44
- Grant AM, Wrzesniewski A. 2010. I won't let you down. . . or will I? Core self-evaluations, other-orientation, anticipated guilt and gratitude, and job performance. *J. Appl. Psychol.* 95:108–21
- Grijalva E, Harms PD, Newman DA, Gaddis BH, Fraley RC. 2015. Narcissism and leadership: a meta-analytic review of linear and nonlinear relationships. *Pers. Psychol.* 68:1–47
- Grijalva E, Maynes TD, Badura KL, Whiting SW. 2020. Examining the “I” in team: a longitudinal investigation of the influence of team narcissism composition on team outcomes in the NBA. *Acad. Manag. J.* 63:7–33
- Housman M, Minor D. 2016. *Organizational design and space: the good, the bad, and the productive*. Work. Pap. 16-147, Harvard Bus. Sch., Harvard Univ., Cambridge, MA
- Hu J, Liden RC. 2015. Making a difference in the teamwork: linking team prosocial motivation to team processes and effectiveness. *Acad. Manag. J.* 58:1102–27
- Hu J, Zhang Z, Jiang K, Chen W. 2019. Getting ahead, getting along, and getting prosocial: examining extraversion facets, peer reactions, and leadership emergence. *J. Appl. Psychol.* 104:1369–86
- Jehn KA, Shah PP. 1997. Interpersonal relationships and task performance: an examination of mediation processes in friendship and acquaintance groups. *J. Pers. Soc. Psychol.* 72:775–90
- Johnson MD, Hollenbeck JR, Humphrey SE, Ilgen DR, Jundt D, Meyer CJ. 2006. Cutthroat cooperation: asymmetrical adaptation to changes in team reward structures. *Acad. Manag. J.* 49:103–19
- Jordan JJ, Yoeli E, Rand DG. 2020. *Don't get it or don't spread it? Comparing self-interested versus prosocial motivations for COVID19 prevention behaviors*. Work. Pap., Harvard Bus. Sch., Harvard Univ., Cambridge, MA
- Judge TA, Piccolo RF. 2004. Transformational and transactional leadership: a meta-analytic test of their relative validity. *J. Appl. Psychol.* 89:755–68
- Jungert T, Van den Broeck A, Schreurs B, Osterman U. 2018. How colleagues can support each other's needs and motivation: an intervention on employee work motivation. *Appl. Psychol. Int. Rev.* 67:3–29
- Karau SJ, Williams KD. 1993. Social loafing: a meta-analytic review and theoretical integration. *J. Pers. Soc. Psychol.* 65:681–706
- Kesebir S, Lee SY, Elliot AJ, Pillutla MM. 2019. Lay beliefs about competition: scale development and gender differences. *Motiv. Emot.* 43:719–39
- Kilduff GJ. 2014. Driven to win: rivalry, motivation, and performance. *Soc. Psychol. Pers. Sci.* 5:944–52
- Kilduff GJ, Elfenbein HA, Staw BM. 2010. The psychology of rivalry: a relationally-dependent analysis of competition. *Acad. Manag. J.* 53:943–69

- Kilduff GJ, Galinsky AD, Gallo E, Reade JJ. 2016. Whatever it takes to win: Rivalry increases unethical behavior. *Acad. Manag. J.* 59:1508–34
- Kim E, Glomb TM. 2010. Get smarty pants: cognitive ability, personality, and victimization. *J. Appl. Psychol.* 95:889–901
- Klotz AC, Bolino MC. 2013. Citizenship and counterproductive work behavior: a moral licensing view. *Acad. Manag. Rev.* 38:292–306
- Knowlton K. 2021. *Trailblazer mindsets and marginalized group members: when being underrepresented helps you help others*. PhD Thesis, Univ. Penn., Philadelphia
- Korsgaard MA, Meglino BM, Lester SW. 1997. Beyond helping: Do other-oriented values have broader implications in organizations? *J. Appl. Psychol.* 82:160–77
- Kray LJ, Reb J, Galinsky AD, Thompson L. 2004. Stereotype reactance at the bargaining table: the effect of stereotype activation and power on claiming and creating value. *Pers. Soc. Psychol. Bull.* 30:399–411
- Kundro TG, Nurmohamed S. 2020. Understanding when and why cover-ups are punished less severely. *Acad. Manag. J.* 64:873–900
- Lebel RD, Patil SV. 2018. Proactivity despite discouraging supervisors: the powerful role of prosocial motivation. *J. Appl. Psychol.* 103:724–37
- Lee A, Lyubovnikova J, Tian AW, Knight C. 2020. Servant leadership: a meta-analytic examination of incremental contribution, moderation, and mediation. *J. Occup. Organ. Psychol.* 93:1–44
- Lee K, Duffy MK. 2019. A functional model of workplace envy and job performance: When do employees capitalize on envy by learning from envied targets? *Acad. Manag. J.* 62:1085–110
- Levitt S, List J. 2011. Was there really a Hawthorne effect at the Hawthorne plant? An analysis of the original illumination experiments. *Am. Econ. J. Appl. Econ.* 3:224–38
- Lin KJ, Savani K, Iliès R. 2019. Doing good, feeling good? The roles of helping motivation and citizenship pressure. *J. Appl. Psychol.* 104:1020–35
- Liu D, Jiang K, Shalley CE, Keem S, Zhou J. 2016. Motivational mechanisms of employee creativity: a meta-analytic examination and theoretical extension of the creativity literature. *Organ. Behav. Hum. Decis. Process.* 137:236–63
- Lockwood P, Kunda Z. 1999. Increasing the salience of one's best selves can undermine inspiration by outstanding role models. *J. Pers. Soc. Psychol.* 76:214–28
- Lount RB Jr., Pettit NC, Doyle SP. 2017. Motivating underdogs and favorites. *Organ. Behav. Hum. Decis. Process.* 141:82–83
- Maner JK, Case CR. 2016. Dominance and prestige: dual strategies for navigating social hierarchies. In *Advances in Experimental Social Psychology*, Vol. 54, ed. JM Olson, MP Zanna, pp. 129–80. San Diego, CA: Elsevier
- Marr JC, Thau S. 2014. Falling from great (and not-so- great) heights: how initial status position influences performance after status loss. *Acad. Manag. J.* 57:223–48
- Martin SL, Liao H, Campbell EM. 2013. Directive versus empowering leadership: a field experiment comparing impacts on task proficiency and proactivity. *Acad. Manag. J.* 56:1372–95
- McNatt DB. 2000. Ancient Pygmalion joins contemporary management: a meta-analysis of the result. *J. Appl. Psychol.* 85:314–22
- Melwani S, Barsade SG. 2011. Held in contempt: the psychological, interpersonal, and performance consequences of contempt in a work context. *J. Pers. Soc. Psychol.* 101:503–20
- Menges JI, Tussing DV, Wihler A, Grant AM. 2017. When job performance is all relative: how family motivation energizes effort and compensates for intrinsic motivation. *Acad. Manag. J.* 60:695–719
- Miron-Spektor E, Efrat-Treister D, Rafaeli A, Schwarz-Cohen O. 2011. Others' anger makes people work harder not smarter: the effect of observing anger and sarcasm on creative and analytic thinking. *J. Appl. Psychol.* 96:1065–75
- Moon H. 2001. The two faces of conscientiousness: duty and achievement striving. *J. Appl. Psychol.* 86:533–40
- Mueller JS. 2012. Why individuals in larger teams perform worse. *Organ. Behav. Hum. Decis. Process.* 117:111–24
- Nguyen H-HD, Ryan AM. 2008. Does stereotype threat affect test performance of minorities and women? A meta-analysis of experimental evidence. *J. Appl. Psychol.* 93:1314–34

- Nurmohamed S. 2020. The underdog effect: when low expectations increase performance. *Acad. Manag. J.* 63:1106–33
- Obstfeld D. 2005. Social networks, the *tertius iungens* orientation, and involvement in innovation. *Adm. Sci. Q.* 50:100–30
- O'Reilly CA, Chatman JA, Doerr B. 2020. When “me” trumps “we”: narcissistic leaders and the cultures they create. *Acad. Manag. Discov.* 7:419–50
- O'Reilly CA, Doerr B, Chatman JA. 2018. “See you in court”: how CEO narcissism increases firms’ vulnerability to lawsuits. *Leadersh. Q.* 29:365–78
- Owens BP, Wallace AS, Waldman DA. 2015. Leader narcissism and follower outcomes: the counterbalancing effect of leader humility. *J. Appl. Psychol.* 100:1203–13
- Patil SV, Lebel RD. 2019. “I want to serve but the public does not understand”: prosocial motivation, image discrepancies, and proactivity in public safety. *Organ. Behav. Hum. Decis. Process.* 154:34–48
- Peterson BE, Stewart AJ. 1996. Antecedents and contexts of generativity motivation at midlife. *Psychol. Aging* 11:21–33
- Peterson SJ, Galvin BM, Lange D. 2012. CEO servant leadership: exploring executive characteristics and firm performance. *Pers. Psychol.* 65:565–96
- Piccolo RF, Colquitt JA. 2006. Transformational leadership and job behaviors: the mediating role of core job characteristics. *Acad. Manag. J.* 49:327–40
- Pike B, Kilduff GJ, Galinsky AD. 2018. The long shadow of rivalry: Rivalry motivates performance not just today but tomorrow. *Psychol. Sci.* 29:804–13
- Podsakoff NP, Whiting SW, Podsakoff PM, Blume BD. 2009. Individual- and organizational-level consequences of organizational citizenship behaviors: a meta-analysis. *J. Appl. Psychol.* 94:122–41
- Porath CL, Erez A. 2007. Does rudeness really matter? The effects of rudeness on task performance and helpfulness. *Acad. Manag. J.* 50:1181–97
- Rapp AA, Bachrach DG, Rapp TL. 2013. The influence of time management skill on the curvilinear relationship between organizational citizenship behavior and task performance. *J. Appl. Psychol.* 98:668–77
- Riedl C, Woolley AW. 2016. Teams versus crowds: a field test of the relative contribution of incentives, member ability, and emergent collaboration to crowd-based problem solving performance. *Acad. Manag. Discov.* 3:382–403
- Riskin A, Erez A, Foulk TA, Kugelman A, Gover A, et al. 2015. The impact of rudeness on medical team performance: a randomized trial. *Pediatrics* 136:487–95
- Sandvik J, Saouma R, Seeger N, Stanton C. 2020. Workplace knowledge flows. *Q. J. Econ.* 135:1635–80
- Schaumburg RL, Wiltermuth SS. 2014. Desire for a positive moral self-regard exacerbates escalation of commitment to initiatives with prosocial aims. *Organ. Behav. Hum. Decis. Process.* 123:110–23
- Shah NP, Cross R, Levin DZ. 2018. Performance benefits from providing assistance in networks: relationships that generate learning. *J. Manag.* 44:412–44
- Sherman EL. 2019. Discretionary remote working helps mothers without harming non-mothers: evidence from a field experiment. *Manag. Sci.* 66:1351–74
- Sleesman DJ, Conlon DE, McNamara G, Miles JE. 2012. Cleaning up the big muddy: a meta-analytic review of the determinants of escalation of commitment. *Acad. Manag. J.* 55:541–62
- Sonenshein S, Nault K, Obodaru O. 2017. Competition of a different flavor: how a strategic group identity shapes competition and cooperation. *Adm. Sci. Q.* 62:626–56
- Sonnentag S, Grant AM. 2012. Doing good at work feels good at home, but not right away: when and why perceived prosocial impact predicts positive affect. *Pers. Psychol.* 65:495–530
- Staw BM, DeCelles KA, de Goey P. 2019. Leadership in the locker room: how the intensity of leaders’ unpleasant affective displays shapes team performance. *J. Appl. Psychol.* 104:1547–57
- Sy T, Côté S, Saavedra R. 2005. The contagious leader: impact of the leader’s mood on the mood of group members, group affective tone, and group processes. *J. Appl. Psychol.* 90:295–305
- ten Brinke L, Kish A, Keltner D. 2017. Hedge fund managers with psychopathic tendencies make for worse investors. *Pers. Soc. Psychol. Bull.* 44:214–23
- ten Brinke L, Liu CC, Keltner D, Srivastava S. 2016. Virtues, vices, and political influence in the U.S. Senate. *Psychol. Sci.* 27:85–93

- To C, Kilduff GJ, Ordóñez L, Schweitzer ME. 2018. Going for it on fourth down: Rivalry increases risk taking, physiological arousal, and promotion focus. *Acad. Manag. J.* 61:1281–306
- Tong EMW, Ng C-X, Ho JBH, Yap IJL, Chua EXY, et al. 2020. Gratitude facilitates obedience: new evidence for the social alignment perspective. *Emotion*. In press. <https://psycnet.apa.org/doi/10.1037/emo0000928>
- Tucker AL, Singer SJ. 2015. The effectiveness of management-by-walking-around: a randomized field study. *Prod. Oper. Manag.* 24:253–71
- Turner Y, Silberman S, Joffe S, Hadas-Halpern I. 2008. *The effects of including a patient's photograph to the radiographic examination*. Paper presented at the 94th Radiological Society of North America Scientific Assembly and Annual Meeting, Chicago, Nov. 30–Dec. 5
- Tussing DV. 2018. *Hesitant at the helm: the effectiveness-emergence paradox of reluctance to lead*. PhD Thesis, Univ. Penn., Philadelphia
- Umphress EE, Bingham JB, Mitchell MS. 2010. Unethical behavior in the name of the company: the moderating effect of organizational identification and positive reciprocity beliefs on unethical pro-organizational behavior. *J. Appl. Psychol.* 95:769–80
- Utz S, Muscanell N, Göritz AS. 2014. Give, match, or take: a new personality construct predicts resource and information sharing. *Pers. Individ. Differ.* 70:11–16
- Van de Ven N. 2017. Envy and admiration: emotion and motivation following upward social comparison. *Cogn. Emot.* 31:193–200
- Van Kleef GA, Homan AC, Beersma B, van Knippenberg D. 2010. On angry leaders and agreeable followers: how leaders' emotions and followers' personalities shape motivation and team performance. *Psychol. Sci.* 21:1827–34
- van Knippenberg B, van Knippenberg D. 2005. Leader self-sacrifice and leadership effectiveness: the moderating role of leader prototypicality. *J. Appl. Psychol.* 90:25–37
- Vianello M, Galliani EM, Haidt J. 2010. Elevation at work: the effects of leaders' moral excellence. *J. Posit. Psychol.* 5:390–411
- Wade-Benzoni KA, Tost LP, Hernandez M, Larrick RP. 2012. It's only a matter of time: death, legacies, and intergenerational decisions. *Psychol. Sci.* 23:704–9
- Wakeman SW, Peterson RS. 2017. A sheep in wolf's clothing: how communal narcissists reduce status conflict in teams. *Acad. Manag. Proc.* 2017. <https://doi.org/10.5465/AMBPP.2017.13626abstract>
- Wang G, Oh I-S, Courtright SH, Colbert AE. 2011. Transformational leadership and performance across criteria and levels: a meta-analytic review of 25 years of research. *Group. Organ. Manag.* 36:223–70
- Wiltermuth SS. 2011. Cheating more when the spoils are split. *Organ. Behav. Hum. Decis. Process.* 115:157–68
- Wright PM, George JM, Farnsworth SR, McMahan GC. 1993. Productivity and extra-role behavior: the effects of goals and incentives on spontaneous helping. *J. Appl. Psychol.* 78:374–81
- Wrzesniewski A, Dutton JE. 2001. Crafting a job: revisioning employees as active crafters of their work. *Acad. Manag. Rev.* 26:179–201
- Wu J, Liden RC, Liao C, Wayne SJ. 2021. Does manager servant leadership lead to follower serving behaviors? It depends on follower self-interest. *J. Appl. Psychol.* 106:152–67
- Zhang X, Liao H, Li N, Colbert AE. 2020. Playing it safe for my family: exploring the dual effects of family motivation on employee productivity and creativity. *Acad. Manag. J.* 63:1923–50
- Zhu Y, Chen T, Wang J, Wang M, Johnson RE, Jin Y. 2021. How critical activities within COVID-19 intensive care units increase nurses' daily occupational calling. *J. Appl. Psychol.* 106:4–14



Contents

| | |
|---|-----|
| Recollecting What We Once Knew: My Life in Psycholinguistics <i>Lila R. Gleitman and Claire Gleitman</i> | 1 |
| Memory and Reward-Based Learning: A Value-Directed Remembering Perspective <i>Barbara J. Knowlton and Alan D. Castel</i> | 25 |
| Normative Principles for Decision-Making in Natural Environments <i>Christopher Summerfield and Paula Parpart</i> | 53 |
| Speech Computations of the Human Superior Temporal Gyrus <i>Irina Bhaya-Grossman and Edward F. Chang</i> | 79 |
| Cognitive, Systems, and Computational Neurosciences of the Self in Motion <i>Jean-Paul Noel and Dora E. Angelaki</i> | 103 |
| Exploring Cognition with Brain–Machine Interfaces <i>Richard A. Andersen, Tyson Aflalo, Luke Bashford, David Bjånes, and Spencer Kellis</i> | 131 |
| Brain Mechanisms Underlying the Subjective Experience of Remembering <i>Jon S. Simons, Maureen Ritchey, and Charles Fernyhough</i> | 159 |
| Neurophysiology of Remembering <i>György Buzsáki, Sam McKenzie, and Lila Davachi</i> | 187 |
| The Basis of Navigation Across Species <i>Cody A. Freas and Ken Cheng</i> | 217 |
| Computational Psychiatry Needs Time and Context <i>Peter F. Hitchcock, Eiko I. Fried, and Michael J. Frank</i> | 243 |
| Persistence and Disengagement in Personal Goal Pursuit <i>Veronika Brandstätter and Katharina Bernecker</i> | 271 |
| Social Motivation at Work: The Organizational Psychology of Effort for, Against, and with Others <i>Adam M. Grant and Marissa S. Shandell</i> | 301 |

| | |
|---|-----|
| Attitudes, Habits, and Behavior Change <i>Bas Verplanken and Sheina Orbell</i> | 327 |
| Childhood Antisocial Behavior: A Neurodevelopmental Problem <i>Stephanie H.M. van Goozen, Kate Langley, and Christopher W. Hobson</i> | 353 |
| Human Cooperation and the Crises of Climate Change, COVID-19, and Misinformation <i>Paul A.M. Van Lange and David G. Rand</i> | 379 |
| Diversity Training Goals, Limitations, and Promise: A Review of the Multidisciplinary Literature <i>Patricia G. Devine and Tory L. Ash</i> | 403 |
| Psychology and Indigenous People <i>Roberto González, Héctor Carvacho, and Gloria Jiménez-Moya</i> | 431 |
| Psychology Within and Without the State <i>H. Clark Barrett</i> | 461 |
| Personality Psychology <i>Brent W. Roberts and Hee J. Yoon</i> | 489 |
| Personal Values Across Cultures <i>Lilach Sagiv and Shalom H. Schwartz</i> | 517 |
| Educational Psychology Is Evolving to Accommodate Technology, Multiple Disciplines, and Twenty-First-Century Skills <i>Arthur C. Graesser, John P. Sabatini, and Haiying Li</i> | 547 |
| Cultivating Resilience During the COVID-19 Pandemic: A Socioecological Perspective <i>Ning Zhang, Shujuan Yang, and Peng Jia</i> | 575 |
| What Are the Health Consequences of Upward Mobility? <i>Edith Chen, Gene H. Brody, and Gregory E. Miller</i> | 599 |
| The Social Effects of Emotions <i>Gerben A. van Kleef and Stéphane Côté</i> | 629 |
| Catching Up on Multilevel Modeling <i>Lesia Hoffman and Ryan W. Walters</i> | 659 |
| Optimizing Research Output: How Can Psychological Research Methods Be Improved? <i>Jeff Miller and Rolf Ulrich</i> | 691 |
| Replicability, Robustness, and Reproducibility in Psychological Science <i>Brian A. Nosek, Tom E. Hardwicke, Hannah Moshontz, Aurélien Allard, Katherine S. Corker, Anna Dreber, Fiona Fidler, Joe Hilgard, Melissa Kline Strubl, Michèle B. Nuijten, Julia M. Robrer, Felipe Romero, Anne M. Scheel, Laura D. Scherer, Felix D. Schönbrodt, and Simine Vazire</i> | 719 |

Quantum Cognition
Emmanuel M. Potbos and Jerome R. Busemeyer 749

Indexes

Cumulative Index of Contributing Authors, Volumes 63–73 779
Cumulative Index of Article Titles, Volumes 63–73 784

Errata

An online log of corrections to *Annual Review of Psychology* articles may be found at
<http://www.annualreviews.org/errata/psych>