THE NEUROSCIENCE OF LEADING EFFECTIVE TEAMS

by Jay J. Van Bavel
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Most organizations have long realized that most work in the modern era is done in teams, where cooperation and collaboration are critical for success. Scientists have recently found that certain teams flounder while others flourish at solving problems. We argue that leadership is fundamentally about creating a feeling of common purpose—known as a social identity. The current paper provides a roadmap for leaders to become entrepreneurs of identity, who creatively structure, motivate, and coordinate groups. Specifically, we describe three key elements for building effective teams, including how to 1) structure effective teams, 2) motivate individuals to identify with the team, and 3) encourage individuals to cooperate and coordinate with team members. Organizations that use these strategies can create teams that are the greater than the sum of their parts.

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Key takeaways:

1. Although people believe that there is a simple relationship between talent and team performance, some teams underperform or over-perform based on much more than the aggregate talent quotient of a given team.

2. When structuring effective teams, diversity can facilitate increased performance--but only when the team shares a common social identity.

3. Groups that fulfill the need to belong, while remaining distinctive, motivate individuals to identify with the team.

4. Clarifying group goals and rewarding individuals who promote team success can encourage individuals to cooperate and coordinate with team members.

Introduction

Most leaders have long realized that focusing on individual performance is hardly sufficient for producing the best results. Most work in the modern era is done by teams, where cooperation and collaboration are critical for success. Indeed, the time spent by managers and employees in collaboration has ballooned by more than 50% in recent years. Moreover, scientists have found that certain teams flounder while others flourish at solving problems—a trait known as *collective intelligence* (Wooley et al., 2010).

There have been numerous attempts over the years to codify—and decipher—the key ingredients in team development. Conventional wisdom has produced countless tips for constructing successful teams, from "putting introverts together" to "building friendships outside of work." But when these nuggets of wisdom were put to the test in a large study at Google, they were found to be completely uncorrelated to team success (Duhigg, 2016). Moreover, a survey of human resource professionals found that they drew on 250 different models and theories of team and team building in their practices (Offerman & Spiros, 2001).

This underscores just how fragmented our knowledge is in the domain of team development. The most popular model describes five stages: *Forming* (establishing relationships, setting rules and standards), *Storming* (resistance and internal conflict), *Norming* (conflict is overcome by adopting shared perspectives and developing a group identity), *Performing* (when the group begins to excel at task performance), and *Adjourning* (when the group disbands; Tuckman, 1965; Tuckman & Jensen, 1977). Unfortunately, this framework was developed over 50 years ago in a radically different work environment and focuses on describing the overall arc of the team dynamics without clarifying how leaders can cultivate effective teams.

One definition of leadership is the "act of leading a group of people or an organization." And yet, there is little consensus about how leaders can successfully coordinate and motivate teams within an organization. The dominant models of team development are largely descriptive; they offer very little insight into how leaders can inspire individuals and groups to ensure their success and harness the benefits of diversity in the modern workplace. In this paper, we bring cutting-edge research from psychology, neuroscience, and management to help people lead effective teams. This modern approach to leading teams offers a fresh perspective on an ancient problem.

Our research explains why team formation often proceeds with relative ease—given the role of group formation in human nature. Thus, we argue that leadership is fundamentally about creating a feeling of common purpose—known as a social identity. We also specify various strategies leaders can use to maximize the time teams spend "norming" and "performing" rather than "storming." In particular, we describe three key areas for leaders to leverage when building teams: 1) how to **structure** effective teams (2) how to motivate individuals to **identify** with the team, and (3) how to get individuals to **cooperate and coordinate** with team members. From this perspective, leaders are *entrepreneurs of identity* (Haslam, Reicher & Platow, 2011), who creatively structure, motivate, and coordinate groups.

Structuring effective teams

There is an element of team building that involves selecting the right people. But to focus on assembling individuals simply based on elite individual performance would be a mistake. As the legendary football coach Knute Rockne once said of his team, "As a coach, I play not my eleven best, but my best eleven." Indeed, the groups with the greatest collective intelligence are not those with the smartest person or even the smartest group of people, but groups who have the capacity to solve problems through social coordination (Wooley et al., 2010). This is why, for example, teams with a mix of women and men outperform teams that are composed entirely of men on group problem solving tasks: having women on a team increases overall collective intelligence (Woolley et al, 2011), the presence of female directors on a company board correlates with decreased chances of declaring bankruptcy (Wilson, 2009), and having women in senior leadership roles improves board and organizational financial performance, innovation, and decision-making (Bourke et al, 2016; Noland et al, 2016).

Conventional wisdom has focused on building teams full of superstars. However, there is good reason to believe that this strategy can backfire. For instance, biologist William Muir (2005) found that breeding the most productive chickens—widely referred to as "super chickens"—with one another could have disastrous consequences. In his study, the most productive hen in each cage was used to breed with the most productive hens from the other cages. This strategy backfired. After six generations of breeding super chickens, only three hens were left—six had been murdered and the remaining hens were nearly bare of feathers after attacking one another viciously (Heffernan, 2014). By contrast, when the most productive cages of hens bred freely, they were healthy, and their egg production increased dramatically. The reason is that super chickens—and many superstars—are bullies, hoarding resources to achieve their productivity while suppressing the productivity of the other hens.

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Unfortunately, the same dynamic plays out in organizations around the world. Superstars are aggressively recruited and set against one another in a fiercely competitive world of performance reviews. Indeed, this might help explain why psychopaths are often able to achieve promotion and success in certain organizations through manipulation and aggression—even though they turn out to be terrible managers and leaders (Hare & Babiak, 2006). Although people believe that there is a linear relationship between the amount of talent on a team and performance, this is not always the case (Swaab et al., 2014). Of course, when people on a team are working independently, with little coordination necessary, more talent is associated with greater performance. But when team members are required to work together, as

in sports like football and basketball, the addition of talent facilitates performance up to a certain point. After that point is achieved, adding more talent has little positive effect, and can even backfire—this is known as the "Too-Much-Talent-Effect" (Swaab et al., 2014).

Rather than selecting similarly talented individuals, extensive evidence suggests that diversity is key to team success. Research shows that assigning people to more diverse, mixed-background teams can be more effective for driving team creativity, intelligence, and problem solving (Lieberman et al, 2015). Belonging to the same team can help overcome potential biases that might otherwise impair performance and hinder collaboration. It helps prevent problems like groupthink, by harnessing a diversity of perspectives. Indeed, in a study involving 366 companies, organizations that lacked diversity were less likely to achieve higher financial returns (Hunt et al, 2018).

One reason may be improved decision-making processes used by diverse teams. In a cloud-based enterprise decision making platform, team diversity was associated with an increase in the quality of decisions by 87% compared to very homogenous teams (e.g. an all-male team; Cloverpop, 2017). In short, teams whose members are diverse in age, gender, and geography deliver better outcomes as they frame decisions, weigh in with feedback, record details, and track results of their decisions (Cloverpop, 2017). But it's important to note that recent research has found diversity only facilitates performance when the team shares a common social identity (van Veelen & Ufkes, 2017). Sharing a social identity increases learning and team efficiency, allowing leaders to harness the benefits of diversity.

Similarly, we have found scientific evidence that a common social identity can help override some of the implicit biases that normally accompany interactions with diverse individuals. For instance, assigning people to mixed-race teams can even override implicit racial biases—leading people to have positive automatic reactions towards all team members, regardless of their race (Van Bavel & Cunningham, 2009). One reason this might occur is because people start to pay attention to their team members, seeing them as individuals rather than members of a racial out-group (Van

Bavel & Cunningham, 2012). Likewise, becoming a member of a racially-diverse group changes brain activation within minutes—activating the amygdala and facial processing regions of the brain when people see team members of any race (Van Bavel, Packer & Cunningham, 2008; 2011).

Cultivating common social identity provides a strategy for promoting cohesion in diverse environments—and can reduce the sorts of unconscious biases that are often a source of tension and conflict within groups. Coca-Cola, for example, aims to create a social identity through diversity and inclusion as a corporate value. The statement "diversity is an integral part of who they are," is a perspective that is outlined in the company's Global Diversity Strategic Framework and implemented in its workplace strategy for attracting, retaining, and developing diverse talent around the world (Coca Cola, 2013). Countless companies are implementing similar strategies to try to cultivate and harness a shared group identity around diversity.

Business leaders should use this knowledge to their advantage in deciding how to structure their teams. Diversity may come from any number of domains, from simple demographics (race, gender, age, education) to different viewpoints. It may take time to build diverse teams. For example, Siemens, a German conglomerate with more than 350,000 employees around the world, set out to create a diverse management team a decade ago. Today, the 20-person supervisory board includes 13 external members (people who do not work at Siemens, or individuals who had begun their careers elsewhere), six women, and four individuals born outside of Germany; the board members range in ages between 44 and 74 years old (Lorenzo et al, 2017). But this commitment often pays off in terms of performance, creativity, and effective problem solving.

Not only does structuring a more diverse team have the potential to reduce the tendency toward groupthink, but it can also reduce bias, increase collaboration, and generate creative solutions. There are now numerous studies reporting that diversity is associated with economic benefits across sectors. However, harnessing diversity to create effective teams works best when group members strongly identify with the same team.

Identify as a team

Perhaps the most important element of effective leadership is the management of group identities—great leaders are usually *"Entrepreneurs of Identity"* (Haslam, Reicher & Platow, 2011). Many experiments have found that members who identify with a group will act to benefit their groups, even when doing so exacts personal costs (Brewer & Kramer, 1986; Kramer & Brewer, 1984; Van Vugt & Hart, 2004; Zdaniuk & Levine, 2001). One reason is because we share in the success and rewards of our in-group members. For instance, university students are more likely to wear their university sweaters and other apparel or use the pronoun we after their school's football team scores a victory—known as basking in reflected glory (Cialdini et al., 1976). Similarly, people who strongly identity with a group experience greater activity in the reward centers of the brain when they see a fellow group member receive a monetary prize (Hackel et al., 2017). This is likely similar to the joy we feel when our children take their first steps or secure a spot on the honor roll. We care because we identify with them. Similarly, when people identify deeply with a group, people are often willing to make sacrifices for the collective good, devoting time and effort, sweat and toil without necessarily expecting great personal reward. Seeing the group succeed is its own reward.

While creating a sense of shared purpose and common identity is not enough on its own to create a high functioning team, it is a key ingredient. Thankfully, the ease with which people form and identify with groups—our tribalism—is one of the most remarkable features of human nature and is found in every society on earth (Brown, 1990). In a famous series of experiments, scientists found that people will form groups under the most minimal of conditions (Tajfel et al., 1971). This is true even when the groups are completely arbitrary, like when students on the schoolyard break into teams for recess. At the flip of a coin, people favor in-group over out-group members (Brewer 1979). Our preference for group members sets us apart from other primates and is so deeply ingrained that it may not even be fully conscious. In fact, there are now many studies showing that people develop strong automatic preferences for members of their own group within minutes of joining the group (e.g., Ashburn-Nardo et al., 2001; Otten & Moskowitz,

Anterior cingulate

mPFC

OFC

Ventral striatum

Fusiform gyri

Insula

Amygdala

Figure 1. Anatomical images of several key brain regions associated with group membership, functional relations between groups, empathy, and pro-social and anti-social behavior. These three brain images are meant to serve as a guide to the location of various regions we reference frequently (not to represent a neural circuit supporting one process in particular). mPFC = medial prefrontal cortex. OFC = orbitofrontal cortex. (We need permission to reprint this Reprinted from Cikara & Van Bavel, 2014).

2000; Van Bavel & Cunningham, 2009). It seems like second nature for humans to draw boundaries between *us* and *them* and to treat others according to these categories.

When we see ourselves as part of a team, this new identity can be more relevant than other identities that are deeply entrenched in our minds. Nearly a decade ago, we conducted the first study using functional Magnetic Resonance Imaging to track brain activity while examining this distinction (Van Bavel, Packer, & Cunningham, 2008; 2011). We told people that they would be part of a group—the Leopards or the Tigers—and then showed them faces from their in-group (e.g. Leopards) and the out-group (e.g. Tigers). Within minutes of joining a team, people had heightened activation in the fusiform gyrus and the amygdala when seeing in-group faces compared to out-group faces, which suggested that people were paying more attention to in-group members. Interestingly, we also found that activity in the orbitofrontal cortex—a brain region involved in processing value—predicted how much people wanted to become friends with their fellow in-group members (see Figure 1). These striking results confirmed predictions from three decades of psychological research, showing that the human brain is highly attuned to our current social identity.

The true potential of groups is realized when members' self-concepts shift—via identification processes—from the individual ("I" or "me") to the collective level ("us" or "we") (Tajfel, 1984; Turner, 1987). Identification with a group involves a fundamental shift of one's goals and values—including cooperation and even altruism (Packer & Van Bavel, 2015). Group identity can explain a range of striking behavior, ranging from putting in long hours at work to sacrificing one's life for one's country. Events and decisions that were once evaluated with reference to oneself ("what's in it for me?") are now evaluated in reference to the group ("what does this mean for us?"). In fact, research shows that even the most selfish individuals can become extremely cooperative when they identify with a group (van Vugt, 2010)! Once the self becomes fused with a group, they become motivated to pursue what they understand to be the goals of the group.

When we teach the concept of group identity to an audience, we ask them how often they have

seen their father or grandfather express great joy or sorrow. Consistent with North American norms that promote emotional reservation among men, our students rarely report seeing such emotional displays. But when we ask whether they have seen their father jump for joy watching a football game or their grandfather cry during a soccer championship—most report that they have! Group identities are powerful and can make us behave in ways that seem otherwise out-of-character. They can even change how we perceive the world around us, changing our interpretations of everything from sporting events to our taste for certain cultural foods (e.g., Xiao, Coppin, & Van Bavel, 2016). It is also fair to say that some of the strongest expressions of emotion stem from group rather than individual identities—even when we are seated in front of a TV thousands of miles away from the game.

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This same ancient psychology is at play in organizations around the world every day. Humans are hardwired to identify with groups because it was how our ancestors survived. To cultivate a strong group identity in the modern work environment, leaders can promote three things: allow members to satisfy basic psychological needs via the group (e.g., social support and belonging), remove obstacles to cooperation, and reward individual contributions to the group. By balancing individuals' need to belong with their desire to stand out, a leader can build a sense of "optimal distinctiveness" among group members (Brewer, 1991). This is a powerful combination for building a committed and effective team.

Satisfy psychological needs via the group

Organizations have traditionally focused on monetary rewards, but great leaders need to focus on the social needs of their employees (Rock, 2008). Groups can fulfill one or more fundamental human needs, including the need to belong (Leary & Baumeister, 1995), to obtain status and feel positive self-regard (Tajfel & Turner, 1979), to feel distinctive (Brewer, 1991), or to obtain certainty and control (Hogg, 2000). The more these needs are satisfied by the group, the more fulfilled and committed the group members (Prentice, CITE). Leaders seeking to increase members' group identification need to first consider the basic social needs of their members and then determine how the group might do a better job meeting them. There is no single solution here—wise leaders will need to identify the key needs of their team and help to fulfill those needs.

One thing to consider is that social categories are multifaceted and hierarchical. Organization employees are usually members of smaller divisions composed of departments and project teams. In many cases, the loyalty of employees lies with their department or project team, rather than the whole organization. Indeed, satisfaction of fundamental needs may often orient people toward smaller teams within the organization (e.g., van Knippenberg & van Schie, 2000). Internal divisions can be useful at times—a bit of healthy competition between departments can drive people to work harder. But internal competition can lead people to lose sight of core organizational goals or cultivate conflict or sabotage between departments (Sherif, Harvey, White, Hood, & Sherif, 1961). This challenge requires visionary leadership that outlines the superordinate goals of the organization and explains how all the divisions, departments, and project teams are necessary for achieving these goals (Hogg, Van Knippenberg & Rast, 2012).

One way to connect employees with a company's superordinate goal is to align them around a commonly shared mission, and use it as an anchor for collaboration, community building, and decision-making processes. For example, Zappos strives to focus people's efforts around its mission of "delivering happiness" to customers by surprising some customers with free overnight deliveries (PBS, 2017). One example for the way Zappos engages employees with the overall company goal is by crowdsourcing the company's values, creating "purpose statements" based on them, with the result that, *"You can pick any role anywhere in [Zappos's]*

purpose hierarchy, and there's an entire set of purpose statements that all link ultimately back up to the company purpose." (PBS, 2017)

More recently, some organizations have begun to define their mission and purpose even beyond business and financial objectives. By defining a mission, looking to provide benevolent benefits, providing a culture of development and growth for employees, and delivering sustainable business performance, these organizations aim at making a difference for society at large and thereby offer goals that are bigger than the company's individual silos (Game Changers, n.d.). This helps fulfill the identity goals of employees, providing them with greater meaning and purpose—which increases well-being, effectiveness, and persistence (Schwartz, 2015).

Remove obstacles to collaboration

In today's technology-rich and quickly changing business world, collaboration between teams and individuals is not only expected, but recent neuroscience research suggests that it is inherently rewarding. In one study, cooperation elicited a greater response in orbitofrontal cortex than competition, which the authors interpreted as indicative of a reward response (Decety, Jackson, Sommerville, Chaminade, & Meltzoff, 2004). Similarly, other studies have found that the ventral striatum—also associated with reward registration—is activated when individuals observe cooperation (Rilling, Gutman, Zeh, Pagnoni, Berns, & Kilts, 2002). We suspect that the act of cooperation might trigger increased identification and thus further cooperation with the group, creating a virtuous feedback loop.

This is precisely why both organizations and their leaders should think of creating ways to allow individuals to cooperate rather than simply pitting them against one another. Leading by example from the top ranks can send a strong message about collaboration throughout the organization: IBM's study with 1,600 CEOs in 64 countries concludes that the ability to collaborate with colleagues is one of the top three most important leadership traits (Levin, 2017)

Rewarding though it may be, cooperation also tends to be parochial—meaning that we readily cooperate with fellow in-group members while withholding cooperation from the members of other groups (De

Drue, Balliet, & Halevy, 2004). Within the group, this is great news, but the support we lend to in-group members is rarely extended to the out-group (e.g., Choi & Bowles, 2007; Tajfel & Turner, 1979; Valdesolo & DeSteno, 2007). Countless studies have found that people give more resources to the in-group even when doing so offers no material benefit for themselves and when there is no competitive need to give less to the out-group. If the competition is fierce, people show decreased empathy when witnessing out-group members in physical and emotional pain (see Cikara, Bruneau, Van Bavel, & Saxe, 2014). In one neuroimaging study, Boston Red Sox and New York Yankees fans—arch-rival baseball teams—reported pleasure and exhibited activity in ventral striatum when watching their rivals fail (Cikara et al., 2011). Similarly, soccer fans exhibited activity in ventral striatum (which is associated with a reward experience) when watching a rival team's fan receive a painful electric shock (Hein, Silani, Preuschoff, Batson, & Singer, 2010). These results suggest that in a very deep way people may even enjoy watching an out-group suffer.

Effective leaders in organizations will consider how to remove obstacles to cooperation in order to create stronger group identity among team members. Increased cooperation not only strengthens team cohesion, engagement, and effort toward the achievement of group goals, but it elicits empathy and support for in-group members (Cikara et al., 2014). Leaders can create time and opportunity needed for team members to discuss, discover, and build creative collaboration. They can also promote practices that will highlight collaboration instead of competition, such as focusing on group goals, rewarding group success, and cultivating a common purpose.

Other strategies that organizations can consider to encourage cooperation amongst employees include the creation of more matrixed team environments to bring a variety of people together on projects, or rendering traditional talent processes more collaborative by asking managers to discuss goals, performance expectations and developmental opportunities *with* instead of for, employees (Gallup, 2017). Lastly, as physical meetings are declining and people increasingly work and collaborate virtually, organizations are encouraged to consider tools and technologies that

render collaboration and teamwork "easy" and user friendly; for example by investing in collaboration technology platforms and real-time collaboration tools. (Agarwhal et al, 2018; Mercer, 2018)

Create optimal distinctiveness

Human beings have competing desires—to be distinct from others and to belong. Research suggests that people seek a level of *optimal distinctiveness* in groups—in which they simultaneously feel immersed in a collective (something larger than themselves), but retain a degree of individuality (Brewer, 1991). Consider Apple's "Think Different" campaign—it aimed to create a brand in which millions of people could feel special because they were part of a group associated with thinking differently. Groups that provide a sense of belonging and distinctiveness are especially appealing to people. Even very large groups can accomplish this goal by clearly defining boundaries, building distinct identities around their past and future, and creating opportunities for members to make unique contributions to the success of the group.

Team leaders can promote optimal distinctiveness—and strengthen group identity—by highlighting things such as team characteristics or achievements that set members apart from others but illustrate team cohesion at the same time. For example, a leader might bring attention to the fact that the team surpassed the performance goals of other teams (distinctive) and point out how each team member critically contributed to the achievement of the overall team goal (belonging). Striking this balance is a powerful way to unleash the power of groups and it costs almost nothing.

Running an organization filled with highly identified employees—people who place organizational interests ahead of their own and make sacrifices on behalf of the organization—is a desirable state for many leaders. Moreover, group identity can stimulate a clear—and shared—understanding of "how we do things around here." Importantly, the upsides of strong identification with a cohesive group are not one-directional: members also tend to benefit by experiencing a positive self-image and improved psychological health. Indeed, recent research suggests that identifying with strong groups can have a major positive impact on physical health outcomes as well (e.g., Haslam, Jetten, Postmes & Haslam, 2009; Jetten, Haslam & Haslam, 2012). Thus, cultivating a strong group identity among employees is a powerful tool for achieving organizational success.

Behave as a team

Group cohesion is a great strength for organizations—allowing unified, effective collective action. Group cohesion, however, can sometimes also be a weakness—suppressing independent thought and dissent and thus reducing innovation and adaptability. Building an optimal team structure and fostering a strong group identity are only parts of the equation: creating effective teams also involves getting individuals to behave as a team. This can be accomplished by encouraging the team to (1) pursue group *goals* rather than group *norms*, (2) evaluate events and decisions with respect to "us" rather than "me," and (3) reward individual contribution to *group success*. Leaders who employ these strategies are more likely to unleash the power of their teams.

Pursue group goals rather than group norms

How can leaders capitalize on the benefits of group cohesion while avoiding its drawbacks? Our research suggests that there is no inherent incompatibility between a member identifying with a group and questioning what the group is doing (Packer, 2008). Very often, highly identified group members look to other members and group norms to help them figure out how to behave and what is appropriate, which can lead to unthinking conformity. However, if their attention is drawn to how group norms are suboptimal to the group, they are very often willing to speak out against them in an effort to change the group (Packer & Chasteen, 2010). Thus, constructive dissent needs to be explicitly valued in the organization to avoid groupthink and bad decision-making.

The key is to direct attention in the right way. We believe that leaders should encourage their employees to pursue organizational *goals* rather than simply follow organizational *norms* (Packer & Miners, 2014). This means that leaders must work hard to create a shared sense of what the organizational goals are. Norms are generally easy to perceive and follow. Unless they are made explicit, however, goals are harder to perceive and making them clear and consensual is thus a critical leadership task. When organizational norms (how

we are behaving) and organizational goals (what we ultimately want or need to achieve) conflict, this shared understanding gives identified members the ability and the courage to speak up.

Goal setting beyond individual performance expectations can also enable cooperation. For example, Google defines goals or *objectives and key results* (OKR) at several levels: personal OKR are what individuals are working on; team OKRs set priorities for the team rather than just collect individual OKRs; and company OKRs establish top goals for the company (Niven et al, 2016). Additionally, goals are openly noted in the internal company directory which increases synergistic objectives and collaboration (Schneider, 2018).

Effective team leaders will discourage conformity and groupthink and instead encourage team members to voice concerns, counterarguments, and alternative points of view. Leaders can normalize this kind of constructive dissent by discussing these kinds of research findings with the team.

The classic idea of a designated contrarian is an example of one such approach to ensure groupthink does not dominate the discussion. Indeed, teams in which one team member subtly presents opposing views outperform others in a study by Stanford University as the presence of a so-called "devil's advocate" helps process information more deeply, consider various angles of a problem, and explore new solutions (Brooks, 2015). However, authentic contrarians who genuinely share the values of the group are far more effective (Nemeth, Brown, & Rogers, 2001). Because of the inherent negativity involved in dissent, it is often the people who are the most committed to the team who are willing to speak up and ensure that the team is performing at its best.

Evaluate based on "us" rather than "me"

People are highly sensitive to the reward contingencies in their environment. It is not enough to simply rely on slogans like, "There's no I in TEAM." If all the reward contingencies in the organization (performance reviews, pay raises) are focused on individual-level activities, the team will be motivationally less important. In these organizations people will likely respond to the real rewards and ignore the goals of the group (see Packer & Van Bavel, 2015). Leaders need to set up a reward structure to reinforce the goals of the organization and the team, rather than selfishness.

Effective team leaders will find ways to provide at least *some* rewards—bonuses, recognition, raises, more flexibility, development opportunities, etc.— that are based on the *entire team's* performance. To avoid free-riding, individual rewards can of course also be given to individuals who make significant contributions to the team's success. This rewards indispensable team members—the types of group members who step up when work needs to get done, cover for colleagues, and enhance the success of the group. This promotes stronger group identity and cohesion, but also reinforces the notion that individuals should behave as a team. When rewards for everyone are contingent on the whole team performing at its best, then individual members are encouraged and motivated (not only monetarily, but also socially) to pursue the team's goals and help the team succeed.

Reward individual contribution to group success

In 1968, the Ohio State Buckeyes started one of the most cherished traditions in American College Football. According to lore, the team was on the cusp of a championship when a member of the training staff conceived of a strategy to help motivate the players. After each game, the coaching staff awarded players small stickers resembling buckeye leaves to place on their helmets. The coaching staff reasoned that rewarding stellar individual performances would provide the right incentive to excel. However, by 2001, the once dominant team had fallen into disarray. A new coach, Jim Tressel, completely revamped the criteria for earning a buckeye, favoring teamwork over individual performance. Instead of rewarding a player for scoring a touchdown, the coach gave every player on the team a sticker after each win or every member of the offensive unit a sticker if they scored over 24 points. This team-based reward system paid off almost immediately, and the team won a national championship the following year.

The focus on rewarding individuals for performance is the dominant compensation strategy in most organizations, from sports teams, to companies, to universities. As we write this, the majority of Fortune 500 companies reward the most productive individuals, not the most effective groups or important group members. We believe

most organizations are ignoring the potential power of groups at their peril. If organizations reward selfish behavior, it is not surprising to end up with an organization where employees elbow one another for a chance to grab a raise or promotion. If outcomes are at the group level, however, people are more apt to identify with the organization and to pursue collective goals (Packer & Van Bavel, 2015). In these groups, people are more likely to make self-sacrifices for the success of the group. The fact that most reward systems are targeted at individuals suggests that leaders are missing opportunities to promote the goals of their organization and that they are ignoring a critically important component of team leadership.

Conclusion

The bottom line is that leaders can benefit enormously by understanding the group psychology that evolved in the human species over eons. The ease with which people categorize the social world into groups speaks to the tribal nature of the human brain and provides a powerful potential toolbox for leaders to create effective teams. In our own lab, we have observed changes in brain function within minutes of assigning people to a group. This suggests that leaders have substantial power to configure and reconfigure work teams to tackle novel challenges and problems. The human mind is receptive to joining new groups and is able to quickly re-categorize the social world as new groups become relevant (Turner et al., 1994). Our ingrained tendencies to identify with the groups to which we belong provide the foundations for cooperation and coordination with others. Thus, great leaders must become *entrepreneurs of team identity* (Haslam, Reicher & Platow, 2011). By understanding the tribal dynamics of the human brain, leaders can foster more productive, collaborative, and healthy organizations.

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