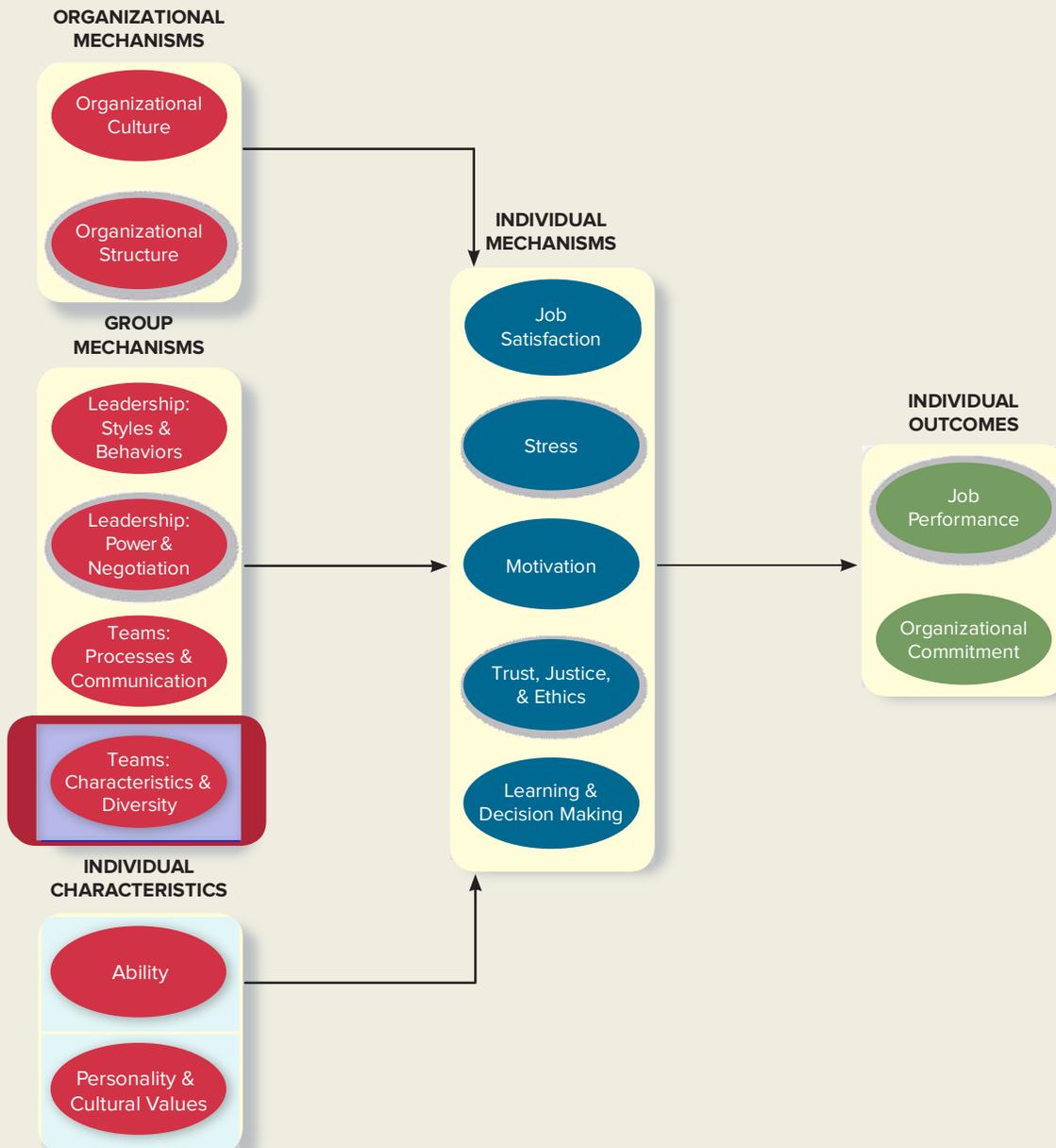


Teams: Characteristics and Diversity

11



LEARNING GOALS

After reading this chapter, you should be able to answer the following questions:

- 11.1** What are the five general team types and their defining characteristics?
- 11.2** What are the three general types of team interdependence?
- 11.3** What factors are involved in team composition?
- 11.4** What are the types of team diversity, and how do they influence team functioning?
- 11.5** How do team characteristics influence team effectiveness?
- 11.6** How can team compensation be used to manage team effectiveness?





©Brooks Kraft/Getty Images

WHOLE FOODS

Which grocery store chain comes to mind when you think of high quality natural and organic foods? Chances are the answer to this question is Whole Foods. Founded in 1980, Whole Foods is now a Fortune 500 company, with sales of nearly \$15 billion generated from its 460 stores and 87,000 employees. Even if there's not a Whole Foods market located near you, or you could care less about whether your food has hydrogenated fats or artificial colors and preservatives, you may be familiar with the company because of accolades and coverage from news and business publications. As examples, the company has been named to Fortune's list of the "100 Best Companies to Work For" each year since the list's inception in 1998. It's also one of Fortune's "World's Most Admired Companies," and has appeared on Newsweek's list of "Top Green Companies in the U.S.," and Forbes' list of "100 Most Trustworthy Companies in America."

So, what accounts for Whole Foods' tremendous growth and reputation? To sum it up in one word, the answer may be "teams." The original idea behind Whole Foods was that the world was ready for a natural foods supermarket. However, the company's success has been driven largely by a strong

set of values that are enacted through teams and supportive team practices. The company believes that teams not only result in the type of collective learning and intelligence that promotes incremental progress, but also that teams reinforce a sense of community and dedication to the company, customers, and other stakeholders in society.

Although many companies claim that they value and rely on teams, Whole Foods' belief in teams is all-encompassing. Each store is structured around 8 to 10 teams, and because these teams are largely self-managed, they are teams in the true sense of the word. Team members not only work together to carry out the responsibilities of their department, but they also meet regularly to discuss issues, make decisions, and solve problems. Team members are also given feedback about how well their team is performing relative to historical standards and to other teams, and their compensation is tied to the performance of their team as well. Because the fate of team members is shared at Whole Foods, employees are motivated to work cooperatively, and this maximizes the chance that the interests of everyone are satisfied.

TEAM CHARACTERISTICS AND DIVERSITY

The topic of teams is likely familiar to almost anyone who might be reading this book. In fact, you've probably had firsthand experience with several different types of teams at different points in your life. As an example, most of you have played a team sport or two (yes, playing soccer in gym class counts). Most of you have also worked in student teams to complete projects or assignments for courses you've taken. Or perhaps you've worked closely with a small group of people to accomplish a task that was important to you—planning an event, raising money for a charity, or starting and running a small cash business. Finally, some of you have been members of organizational teams responsible for making a product, providing a service, or generating recommendations for solving company problems.

But what exactly is a team, and what is it that makes a team more than a “group”? A **team** consists of two or more people who work *interdependently* over some time period to accomplish *common goals* related to some *task-oriented purpose*.¹ You can think of teams as a special type of group, where a group is just a collection of two or more people. Teams are special for two reasons. First, the interactions among members within teams revolve around a deeper dependence on one another than the interactions within groups. Second, the interactions within teams occur with a specific task-related purpose in mind. Although the members of a friendship group may engage in small talk or in-depth conversations on a frequent basis, the members of a team depend on one another for critical information, materials, and actions that are needed to accomplish goals related to their purpose for being together.

The use of teams in today's organizations is widespread. National surveys indicate that teams are used in the majority of organizations in the United States, regardless of whether the organization is large or small.² In fact, some researchers suggest that almost all major U.S. companies are currently using teams or planning to implement them, and that up to 50 percent of all employees in the United States work in a team as part of their job.³ Thus, whereas the use of teams was limited to pioneers such as Procter & Gamble in the 1960s, teams are currently used in all types of industries to accomplish all the types of work necessary to make organizations run effectively.⁴

Why have teams become so widespread? The most obvious reason is that the nature of today's work requires them. As work has become more complex, interactions among multiple team members have become more vital. This is because interactions allow the team to pool complementary knowledge and skills. As an example, surgical teams consist of individuals who received specialized training in the activities needed to conduct surgical procedures. The team consists of

A surgical team consists of specialized members who depend on one another to accomplish tasks that are both complex and important. Why might you not want to have surgery conducted by a surgical team that functions like a group?



©Stockbyte/Getty Images

a surgeon who received training for the procedure in question, an anesthesiologist who received training necessary to manage patient pain, and an operating room nurse who was trained to provide overall care for the patient.

Teams may also be useful to organizations in ways beyond just accomplishing the work itself. For example, one study revealed that problem-solving teams composed primarily of rank-and-file workers could boost productivity in steel mills by devising ways to increase the efficiency of production lines and quality control processes.⁵ Although implementing teams often makes sense in settings such as these, for which the nature of the work and work-related problems are complex, teams vary a great deal from one another in terms of their effectiveness. The goal of this chapter, as well as the next, is to help you understand factors that influence team effectiveness. Fortunately, there has been over a century of research on this topic that we can refer to in this effort.⁶

WHAT CHARACTERISTICS CAN BE USED TO DESCRIBE TEAMS?

This is the first of two chapters on teams. This chapter focuses on team characteristics—the task, unit, and member qualities that can be used to describe teams and that combine to make some teams more effective than others. Team characteristics provide a means of categorizing and examining teams, which is important because teams come in so many shapes and sizes. Team characteristics play an important role in determining what a team is capable of achieving and may influence the strategies and processes the team uses to reach its goals. As you will see, however, there's more to understanding team characteristics than meets the eye. Team characteristics such as diversity, for example, have many meanings, and its effect on team functioning and effectiveness depends on what type of diversity you're concerned with as well as several additional complicating factors. Chapter 12 will focus on team processes and communication—the specific actions and behaviors that teams can engage in to achieve synergy. The concepts in that chapter will help explain why some teams are more or less effective than their characteristics would suggest they should be. For now, however, we turn our attention to this question: “What characteristics can be used to describe teams?”

TEAM TYPES

One way to describe teams is to take advantage of existing taxonomies that place teams into various types. One such taxonomy is illustrated in Table 11-1. The table illustrates that there are five general types of teams and that each is associated with a number of defining characteristics.⁷ The most notable characteristics include the team's purpose, the length of the team's existence, and the amount of time involvement the team requires of its individual members. The sections to follow review these types of teams in turn.

WORK TEAMS **Work teams** are designed to be relatively permanent. Their purpose is to produce goods or provide services, and they generally require a full-time commitment from their members. As an example of a work team, consider how cars and trucks are manufactured at Toyota.⁸ Teams are composed of four to eight members who do the physical work, and a leader who supports the team and coordinates with other teams. Although the teams are responsible for the work involved in the assembly of the vehicles, they are also responsible for quality control and developing ideas for improvements in the production process. Team members inspect each other's work, and when they see a problem, they stop the line until they are able to resolve the problem.

MANAGEMENT TEAMS **Management teams** are similar to work teams in that they are designed to be relatively permanent; however, they are also distinct in a number of important ways. Whereas work teams focus on the accomplishment of core operational-level production and service tasks, management teams participate in managerial-level tasks that affect the entire organization. Specifically, management teams are responsible for coordinating the activities of organizational



11.1

What are the five general team types and their defining characteristics?

TABLE 11-1 Types of Teams

TYPE OF TEAM	PURPOSE AND ACTIVITIES	LIFE SPAN	MEMBER INVOLVEMENT	SPECIFIC EXAMPLES
Work team	Produce goods or provide services.	Long	High	Self-managed work team Production team Maintenance team Sales team
Management team	Integrate activities of subunits across business functions.	Long	Moderate	Top management team
Parallel team	Provide recommendations and resolve issues.	Varies	Low	Quality circle Advisory council Committee
Project team	Produce a one-time output (product, service, plan, design, etc.).	Varies	Varies	Product design team Research group Planning team
Action team	Perform complex tasks that vary in duration and take place in highly visible or challenging circumstances.	Varies	Varies	Surgical team Musical group Expedition team Sports team

Sources: S.G. Cohen and D.E. Bailey, "What Makes Teams Work: Group Effectiveness Research from the Shop Floor to the Executive Suite," *Journal of Management* 27 (1997), pp. 239-90; and E. Sundstrom, K.P. De Meuse, and D. Futrell, "Work Teams: Applications and Effectiveness." *American Psychologist* 45 (1990), pp. 120-33.

subunits—typically departments or functional areas—to help the organization achieve its long-term goals. Top management teams, for example, consist of senior-level executives who meet to make decisions about the strategic direction of the organization. It may also be worth mentioning that because members of management teams are typically heads of departments, their commitment to the management team is offset somewhat by the responsibilities they have in leading their unit.

A Toyota work team is responsible for vehicle assembly and quality control.



©Toru Yamanaka/Getty Images

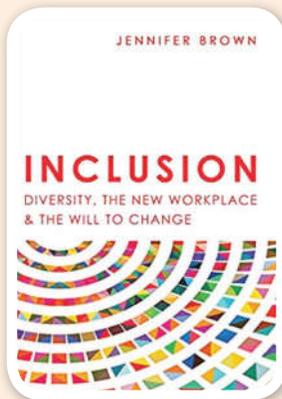
PARALLEL TEAMS Parallel teams are composed of members from various jobs who provide recommendations to managers about important issues that run “parallel” to the organization’s production processes.⁹ Parallel teams require only part-time commitment from members, and they can be permanent or temporary, depending on their aim. Quality circles, for example, consist of individuals who normally perform core production tasks, but who also meet

OB AT THE BOOKSTORE

INCLUSION

by Jennifer Brown (Charleston, SC: Advantage, 2016).

People may not be any quicker to address an injustice or an inequity than they were years ago, but with tools such as Facebook, Twitter, Tumblr, Instagram, Snapchat, mobile-phone cameras, and blogs, a broader community can be reached, and inequity becomes harder to hide or ignore.



©Roberts Publishing Services

With those words, author Jennifer Brown provides one of many reasons why organizations need to change their approach to managing a diverse workforce. Brown argues that diversity is often uncomfortable for people to talk about, and so rather than trying to find real solutions to diversity problems, organizations have been somewhat dismissive. For example, organizations that do not have many African American or Hispanic employees often assert that the situation is out of their control because there aren't enough applicants from those groups in the hiring pipeline. The author points out that society has become more aware and less tolerant of bias and inequity, and that with the advent of social media, organizations will find it increasingly difficult to remain unresponsive to issues that were once cloaked. Brown also notes that employees tend to withhold discretionary effort and be less committed if they don't feel welcomed, valued, respected, and heard. Thus, the potential value

of having a diverse workforce can only be realized through efforts that help those from underrepresented groups feel that it is safe to bring more of their true selves to work.

Brown's book is a call for organizations to become much more proactive and innovative in their efforts to manage diversity. Implementing training programs, such as those that help employees understand unconscious biases and stereotypes, may be a starting point, however, Brown suggests that real success depends on an organization's willingness to make changes that are more comprehensive. To this end, organizations have begun to implement employee resource groups, or ERGs. Comprised of employees from underrepresented groups and their allies, ERGs serve to provide support and guidance to members of their communities who may be experiencing diversity- or inclusion-related problems. Additionally, ERGs provide input and potential solutions to organizations that seek to address the challenges of creating an inclusive environment where employees feel they have the space to fully contribute and thrive.

regularly with individuals from other work groups to identify production-related problems and opportunities for improvement. As an example of a more temporary parallel team, committees often form to deal with unique issues or issues that arise only periodically. Examples of issues that can spur the creation of committees include changes to work procedures, purchases of new equipment or services, and nonroutine hiring. For an example of a parallel team used to address important organizational issues, see our **OB at the Bookstore** feature.

PROJECT TEAMS Project teams are formed to take on “one-time” tasks that are generally complex and require a lot of input from members with different types of training and expertise.¹⁰ Although project teams exist only as long as it takes to finish a project, some projects are quite complex and can take years to complete. Members of some project teams work full-time, whereas other teams demand only a part-time commitment. A planning team comprised of engineers, architects, designers, and builders, charged with designing a suburban town center, might work together full-time for a year or more. In contrast, the engineers and artists who constitute a design

The Australian Band AC/DC, which was formed in 1973, is an example of an action team that has stayed together for an extended period of time.



©Kevin Mazur/Getty Images

AC/DC sometimes stick together for decades. Other types of action teams stay together only as long as the task takes to complete. Surgical teams and aircraft flight crews may only work together as a unit for a single two-hour surgery or flight.

SUMMARY So how easy is it to classify teams into one of the types summarized in Figure 11-1? Well, it turns out that teams often fit into more than one category. As an example, consider the teams at Pixar, the company that has produced many computer-animated hit films, such as *Toy Story*, *Monsters Inc.*, *Finding Nemo*, *Cars*, *Wall-E*, *Up*, *Brave*, *Monsters University*, *Inside Out*, and *Finding Dory*. On the one hand, because the key members of Pixar teams have mostly remained together for each film the company has produced, it might seem like Pixar uses work teams.¹² On the other hand, because the creation of each film can be viewed as a project, and because members are likely involved in multiple ongoing projects, it might seem reasonable to say that Pixar uses project teams. It's probably most appropriate to say that at Pixar, teams have characteristics of both work teams and project teams.

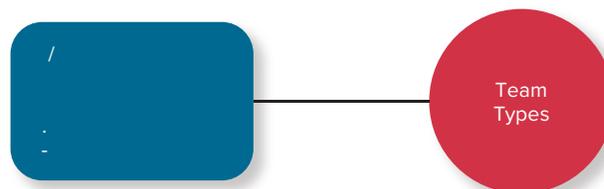
VARIATIONS WITHIN TEAM TYPES

Even knowing whether a team is a project team, an action team, or some other type of team doesn't tell you the whole story. In fact, there are important variations within those categories that are needed to understand a team's functioning.¹³ As one example, teams can vary with respect to the degree to which they have autonomy and are self-managed.¹⁴ If you've ever been on a team where members have a great deal of freedom to work together to establish their own goals, procedures, roles, and membership, you've worked on a team where the level of autonomy and self-management is high. You may also have worked on a team where the level of autonomy and self-management is low. In these teams, there are strict rules regarding goals, procedures, and roles, and team leaders or managers make most of the decisions regarding management of the team with respect to membership. Research

team responsible for creating an electric toothbrush might work together for a month on the project while also serving on other project teams.

ACTION TEAMS Action teams perform tasks that are normally limited in duration. However, those tasks are quite complex and take place in contexts that are either highly visible to an audience or of a highly challenging nature.¹¹ Some types of action teams work together for an extended period of time. For example, sports teams remain intact for at least one season, and musical groups like the Rolling Stones, ZZ Top, Aerosmith, Kiss, and

FIGURE 11-1 Types of Teams



has shown that although people generally prefer working in teams where the level of autonomy and self-management is high, the appropriate level of self-management with regard to overall team effectiveness may depend on a variety of factors.¹⁵ For example, researchers have concluded that high levels of self-management may be most advantageous for teams where team members' have high levels of team-relevant knowledge obtained from outside experts and others in their social networks.¹⁶



©Venturelli/Getty Images

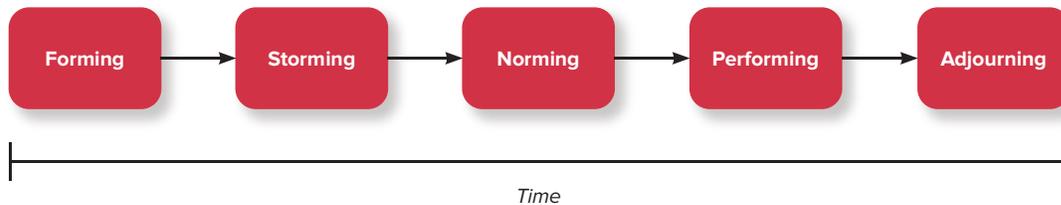
The Pixar team, shown here at the Cannes Film Festival, has characteristics of both work teams and project teams. Trying to characterize this team is even more complicated when you consider that key members are involved in the management of the company, and their involvement in the films runs parallel to these other responsibilities.

Another way that teams can vary relates to how the members typically communicate with each other. **Virtual teams** are teams in which the members are geographically dispersed, and interdependent activity occurs through electronic communications—primarily e-mail, instant messaging, group calendars, web conferencing, social media, and other meeting tools.¹⁷ Although communications and group networking software is far from perfect, it has advanced to the point that it's possible for teams doing all sorts of work to function virtually, and it's also true that many teams do at least some of their work virtually even if the members are colocated. In fact, there has been an 800 percent increase in the number of virtual employees over the last decade or so, and it's likely that there are tens of millions of virtual teams operating today.¹⁸ Companies such as Con Edison, New York's giant electric and gas utility, have invested significant resources in technology and training to help these teams function and perform more effectively.¹⁹ The same is true at IBM, where at least 40 percent of the employees work virtually.²⁰ At TRW, one of the world's largest automotive suppliers, virtual teams provide an efficient way to accomplish work on projects when members are geographically separated.²¹ In fact, many companies in high-tech industries are leveraging virtual teams to make continuous progress on work tasks without members having to work 24/7. For example, Logitech, the Swiss company that makes things such as computer mice and keyboards, universal remotes for home entertainment systems, and gaming controllers, attributes its success to teams of designers and engineers who are located in different places around the world.²² Although you might be inclined to believe that time-zone differences would be a hindrance to this sort of team, Logitech turned it into a competitive advantage by letting the work *follow the sun*.²³ Specifically, work at Logitech is accomplished continuously because members of a team who have finished their workday in one country electronically hand off the work to team members in another country who have just arrived at the office. Because these electronic hand-offs occur continuously, product development and other work needed to bring innovative products to the market can be completed much more quickly.

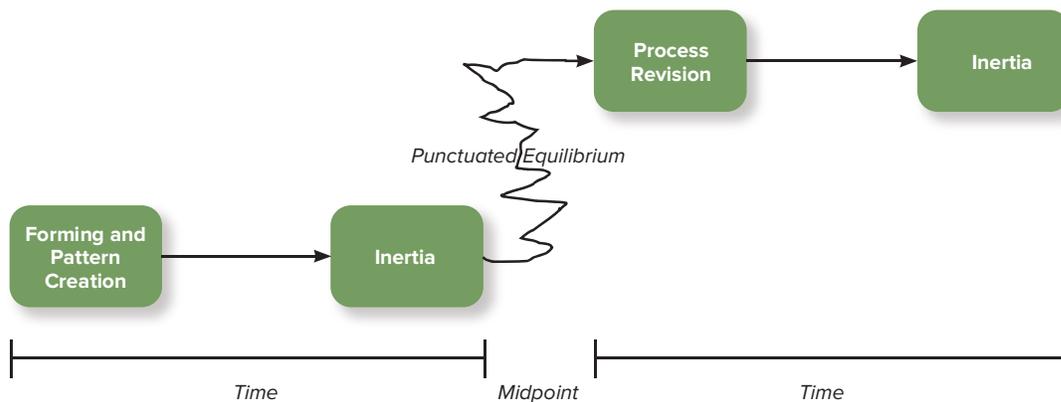
In addition to varying in their "virtuality," teams of any type can differ in the amount of experience they have working together. One way to understand this point is to consider what occurs in teams at different stages of their development as they progress from a newly formed team to one that's well-established. According to the most well-known theory, teams go through a progression of five stages shown in the top panel of Figure 11-2.²⁴ In the first stage, called **forming**, members orient themselves by trying to understand their boundaries in the team. Members try to get a feel for what is expected of them, what types of behaviors are out of bounds, and who's in charge. In the next stage, called **storming**, members remain committed to ideas they bring with them to the team. This initial unwillingness to accommodate others' ideas triggers conflict that negatively affects some interpersonal relationships and harms the team's progress. During the next stage, **norming**, members realize that they need to work together to accomplish team goals, and consequently, they begin to cooperate with one another. Feelings of solidarity develop as members work toward team goals. Over time, norms and expectations develop regarding what different members

FIGURE 11-2 Two Models of Team Development

Some teams develop in a predictable sequence . . .



. . . whereas many develop in a less linear fashion.



are responsible for doing. In the fourth stage of team development, which is called **performing**, members are comfortable working within their roles, and the team makes progress toward goals. Finally, because the life span of many teams is limited, there's a stage called **adjourning**. In this stage, members experience anxiety and other emotions as they disengage and ultimately separate from the team.

But does this sequence of forming, storming, norming, performing, and adjourning apply to the development of all types of teams? Chances are that you've had some experience with teams that would lead you to answer this question with an emphatic "no." In fact, although this theory of group development is intuitively appealing and identifies things that may occur as teams gain experience working together, there are factors in work organizations that can significantly alter what occurs during a team's life.²⁵ One situation in which this developmental sequence is less applicable is when teams are formed with clear expectations regarding what's expected from the team and its members. With many action teams, for example, there are established rules and standard operating procedures that guide team members' behaviors and their interactions with one another. As a specific example, an aircraft flight crew doesn't have to go through the forming, storming, norming, and performing stages to figure out that the pilot flies the plane and the flight attendant serves the beverages. As another example, though the adjourning stage only happens once for each type of team, the implications are likely to be more significant for team types with longer life spans that require high member involvement. Dissolving a work team that's been together for four years is likely to trigger greater anxiety and stronger emotions among members than a situation in which a committee that meets briefly once a month for a year is disbanded.

Another situation in which the development sequence is less applicable may be in certain types of project teams that follow a pattern of development called **punctuated equilibrium**.²⁶ This sequence appears in the bottom panel of Figure 11-2. At the initial team meeting, members make assumptions and establish a pattern of behavior that lasts for the first half of its life. That pattern

of behavior becomes a matter of habit for members and creates an inertia that continues until roughly the midway point of the project. Then something remarkable happens: Members realize that they have to change their approach to the task to complete it on time. Teams that take this opportunity to plan a new approach during this transition tend to do well, and the new framework dominates their behavior until task completion. However, teams that don't take the opportunity to change their approach tend to persist with their original pattern and may "go down with a sinking ship." Interestingly, the realization that things have to change at the midway point of task completion occurs regardless of the time frame of the project.

TEAM INTERDEPENDENCE

In addition to taxonomies of team types, we can describe teams by talking about the interdependence that governs connections among team members. In a general sense, you can think of interdependence as the way in which the members of a team are linked to one another. That linkage between members is most often thought of in terms of the interactions that take place as the team accomplishes its work. However, linkages among team members also exist with respect to their goals and rewards. In fact, you can find out where your student project team stands on different aspects of interdependence using our **OB Assessments** feature.

TASK INTERDEPENDENCE **Task interdependence** refers to the degree to which team members interact with and rely on other team members for the information, materials, and resources needed to accomplish work for the team.²⁷ As Figure 11-3 illustrates, there are four primary types of task interdependence, and each requires a different degree of interaction and coordination.²⁸

The type of task interdependence with the lowest degree of required coordination is **pooled interdependence**.²⁹ With this type of interdependence, group members complete their work assignments independently, and then this work is simply "piled up" to represent the group's output. Consider what pooled interdependence would be like on a fishing boat. Each person would bait a pole, drop the baited line into the water, reel the fish in, remove the fish from the hook, and, finally, throw the fish into a tank filled with ice and other fish. At the end of the day, the boat's production would be the total weight of the fish that were caught.

The next type of task interdependence is called **sequential interdependence**.³⁰ With this type of interdependence, different tasks are done in a prescribed order, and the group is structured such that the members specialize in these tasks. Although members in groups with sequential interdependence interact to carry out their work, the interaction occurs only between members who perform tasks that are next to each other in the sequence. Moreover, the member performing the task in the latter part of the sequence depends on the member performing the task in the earlier part of the sequence, but not the other way around. The classic assembly line in manufacturing contexts provides an excellent example of this type of interdependence. In this context, an employee attaches a part to the unit being built, and once this is accomplished, the unit moves on to another employee who adds another part. The process typically ends with the unit being inspected and then packaged for shipping.

Reciprocal interdependence is the next type of task interdependence.³¹ Similar to sequential interdependence, members are specialized to perform specific tasks. However, instead of a strict sequence of activities, members interact with a subset of other members to complete the team's work. To understand reciprocal interdependence, consider a team of people who are involved in a business that designs custom homes for wealthy clients. After meeting with a client, the salesperson would provide general criteria, structural and aesthetic details, and some rough sketches to an architect who would work up some initial plans and elevations. The architect then would submit the initial plans to the salesperson, who would review the plans with the customer. Typically, the plans need to be revised by the architect several times, and during this process, customers have questions and requests that require the architect to consult with other members of the team. For example, the architect and structural engineer may have to meet to decide where to locate support beams and load-bearing walls. The architect and construction supervisor might also have to meet to discuss revisions to a design feature that turns out to be too costly. As a final example, the salesperson might have to meet with the designers to assist the customer in the selection of additional features, materials, and colors, which would then need to be included in a revision of the plan by the architect.



11.2

What are the three general types of team interdependence?

OB ASSESSMENTS

INTERDEPENDENCE

How interdependent is your student project team? This assessment is designed to measure three types of interdependence: task interdependence, goal interdependence, and outcome interdependence. Read each of the following questions with a relevant student team in mind. Answer each question using the response scale provided. Then follow the instructions below to score yourself. (Instructors: Assessments on deep-level diversity, team role tendencies, and team viability can be found in the PowerPoints in the Connect Library's Instructor Resources and in the Connect assignments for this chapter.)

1 TOTALLY DISAGREE	2 DISAGREE	3 SOMEWHAT DISAGREE	4 NEUTRAL	5 SOMEWHAT AGREE	6 AGREE	7 TOTALLY AGREE

SCORING AND INTERPRETATION

Task Interdependence: Sum up items 1-3. _____

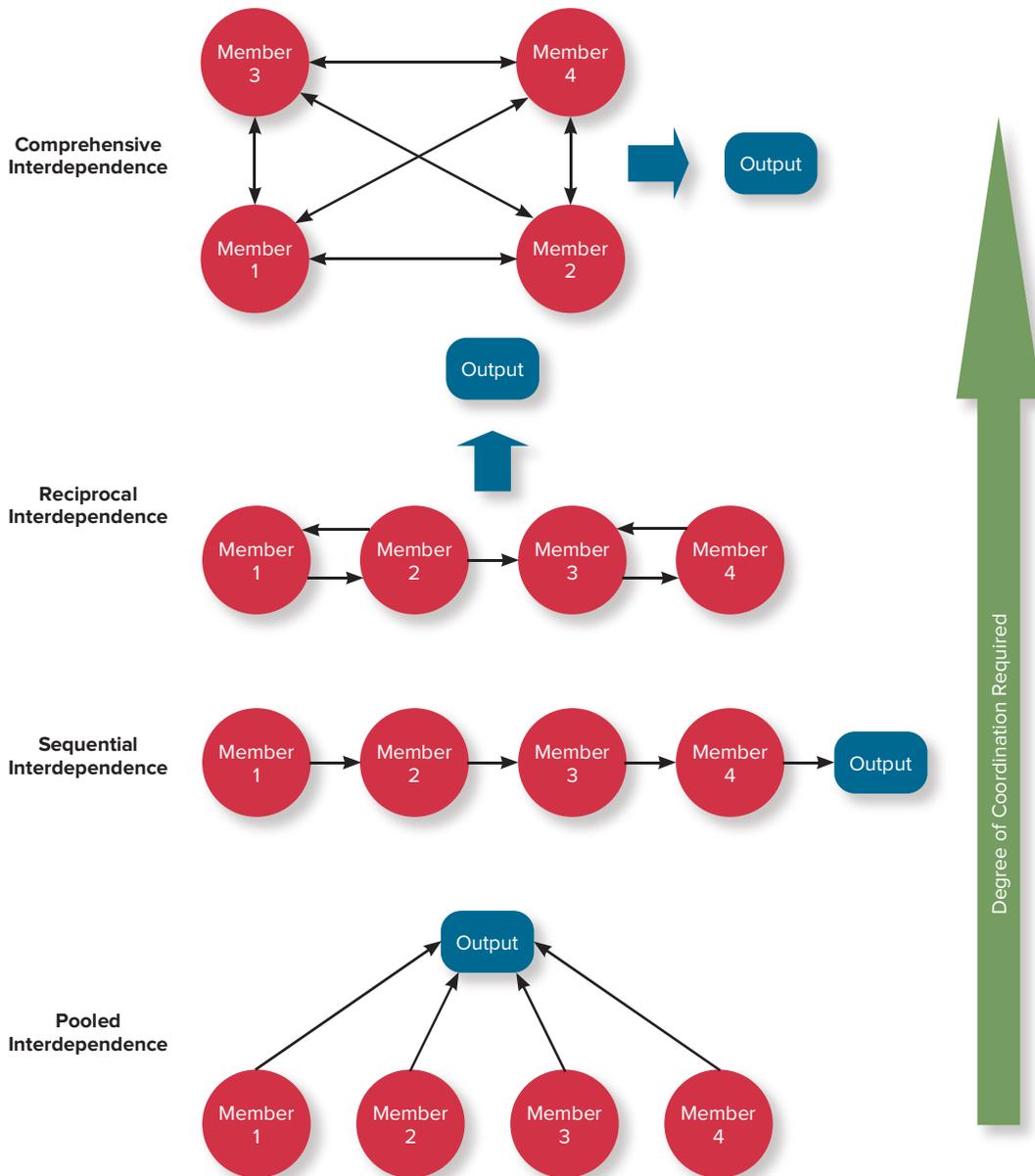
Goal Interdependence: Sum up items 4-6. _____

Outcome Interdependence: Sum up items 7-9. _____

If you scored 14 or above, then your team may be above average on a particular dimension. If you scored 13 or below, then your team may be below average on a particular dimension.

Source: From M.A. Campion, E.M. Papper, and G.J. Medsker, "Relations between Work Team Characteristics and Effectiveness: A Replication and Extension," *Personnel Psychology* 49 (1996), pp. 429-52. John Wiley & Sons, Inc.

Finally, **comprehensive interdependence** requires the highest level of interaction and coordination among members as they try to accomplish work.³² In groups with comprehensive interdependence, members have a great deal of discretion in terms of what they do and with whom they interact in the course of the collaboration involved in accomplishing the team's work. Teams at IDEO, arguably the world's most successful product design firm, function with comprehensive interdependence. These teams are composed of individuals from very diverse backgrounds, and

FIGURE 11-3 Task Interdependence and Coordination Requirements

they meet as a team quite often to share knowledge and ideas to solve problems related to their design projects.³³

It's important to note that there's no one right way to design teams with respect to task interdependence. However, it's also important to recognize the trade-offs associated with the different types. On the one hand, as the level of task interdependence increases, members must spend increasing amounts of time communicating and coordinating with other members to complete tasks. This type of coordination can result in decreases in productivity, which is the ratio of work completed per the amount of time worked. On the other hand, increases in task interdependence increase the ability of the team to adapt to new situations. The more members interact

Face-to-face team meetings that involve comprehensive interdependence can consume a lot of time, yet these meetings are an important part of accomplishing work that requires collaboration.



©Triangle Images/Getty Images

and communicate with other members, the more likely it is that the team will be able to devise solutions to novel problems it may face.

GOAL INTERDEPENDENCE In addition to being linked to one another by task activities, members may be linked by their goals.³⁴ A high degree of **goal interdependence** exists when team members have a shared vision of the team's goal and align their individual goals with that vision as a result.³⁵ To understand the power of goal interdependence, visualize a small boat with several people on board, each with a paddle.³⁶ If each person on the boat wants to go to the exact same place on the other side of a lake, they will all row in the same direction, and the boat will arrive at the desired location. If, however, each person believes the boat should go someplace different, each person will row in a different direction, and the boat will have major problems getting anywhere. In most team contexts, there are asymmetries in the goals of individual team members that interfere with the pursuit of team goals, and what makes managing this situation difficult is that team members often don't become aware of the incompatibilities until it's too late.³⁷

So how do you create high levels of goal interdependence? One thing to do would be to ensure that the team has a formalized mission statement that members buy into. Mission statements can take a variety of forms, but good ones clearly describe what the team is trying to accomplish in a way that creates a sense of commitment and urgency among team members.³⁸ Mission statements can come directly from the organization or leaders, but in many circumstances, it makes more sense for teams to go through the process of developing their own mission statements. This process not only helps members identify important team goals and the actions the team needs to take to achieve these goals, but it also increases feelings of ownership toward the mission statement itself. Table 11-2 describes a set of steps that a team could take to develop their own mission statements.³⁹

Although you might believe that the mission for some team tasks is very obvious, all too often this isn't the case. In student teams, for example, you might expect that the obvious goal in the minds of the team members would be to learn the course material. However, it's typically the case that students come to a team with individual goals that are surprisingly different, and they may never realize their goals are different because they don't talk about them. Some students might be more interested in "just getting by" with a passing grade because they already have a job and just need to graduate. Other students might want to do well in the course, but are more concerned with maintaining balance with the demands of their lives outside of school. Finally, other students might be focused solely on their grades, perhaps because they want to get into a prestigious graduate school in an unrelated discipline. Of course, the problem here is that each of these goals is associated with a different approach to working in the team. Students who want to learn the course material will work hard on the team assignments and will want to spend extra time discussing assignment-related issues with teammates, students who just want to get by will do the minimum amount of work, students who want to maintain their work-life balance will look for the most efficient way to do things, and students who are focused on their grades would be willing to take shortcuts that might inhibit learning. Although trying to reach a consensus on a team mission may not be easy in a situation in which the members have goals that vary along these lines, researchers have found that teams of students experience significantly greater effectiveness if they invest time and effort doing so soon after the team first forms.⁴⁰

OUTCOME INTERDEPENDENCE The final type of interdependence relates to how members are linked to one another in terms of the feedback and outcomes they receive as a consequence of working in the team.⁴¹ A high degree of **outcome interdependence** exists when team members share in the rewards that the team earns, with reward examples including pay, bonuses, formal feedback and recognition, pats on the back, extra time off, and continued team survival. Of course, because team achievement typically depends on the performance of each team member, high outcome

TABLE 11-2

The Mission Statement Development Process

Steps in Mission Statement Development

1. The team should meet together in a room or virtually. Allow enough time (at least 3–4 hours) and avoid interruptions.
2. The team leader (or facilitator) should describe the purpose of a mission statement and what it should look like. Emphasize that mission statements should include action verbs and be relatively short (probably no more than four sentences).
3. The team leader (or facilitator) should clarify the team's core responsibilities.
4. The team should brainstorm to identify themes to include in the mission statement.
5. Members draft preliminary mission statements. If the team is large enough, form subgroups to create first drafts.
6. Members (or subgroups) should share the first drafts with one another.
7. The team should identify the best ideas, and integrate them into a single mission statement.
8. The mission statement should be evaluated using the following criteria:
 - Focus*—Does the mission statement articulate a purpose that is sufficiently clear and focused?
 - Meaningfulness*—Does the mission statement reflect a purpose that is meaningful to the members, and will accomplishing the purpose result in benefits that are important to the members?
 - Realistic*—Does the mission statement reflect something that the members believe they can actually achieve?
 - Challenge*—Does the mission statement convey a sense of challenge and urgency to members?
9. The team should identify weak areas of the mission statement relative to the four criteria in step 8 and revise accordingly.
10. Return to step 7 and continue the process until there's consensus that the mission statement inspires commitment among members to the same common purpose.

For a similar take on how to develop mission statements, see P.S. MacMillan, *The Performance Factor: Unlocking the Secrets of Teamwork*, Nashville, Broadman & Holman Publishers, 2001, pp. 51–53.

interdependence also implies that team members depend on the performance of other team members for the rewards that they receive. In contrast, low outcome interdependence exists in teams in which individual members receive rewards and punishments on the basis of their own individual performance, without regard to the performance of the team. Research on project teams involved in consulting, financial planning, and research and development has shown that higher levels of outcome interdependence increase the amount of information shared among members, which promotes learning, and, ultimately, team performance.⁴² As we discuss in the Application section at the end of this chapter, the way a team is designed with respect to outcome interdependence also has important implications for the level of cooperation and motivation in the team. See our **OB on Screen** feature for an extreme example of outcome interdependence.

TEAM COMPOSITION

You probably already have a sense that team effectiveness hinges on **team composition**—or the mix of people who make up the team. If you've been a member of a particularly effective team, you may have noticed that the team seemed to have the right mix of knowledge, skills, abilities, and personalities. Team members were not only capable of performing their role responsibilities effectively, but they also cooperated and got along fairly well together. In this section, we identify the most important characteristics to consider in team composition, and we describe how these

11.3

What factors are involved in team composition?

OB ON SCREEN

ARRIVAL

I have something I need you to translate for me.

With those words, Colonel G.T. Weber (Forest Whitaker) initiates the process of recruiting expert linguist, Dr. Louise Banks (Amy Adams), for a very important team, in the movie *Arrival* (Dir. Denis Villeneuve, 21 Laps Entertainment, 2016). You see, 12 extraterrestrial vessels touch down in locations across the globe—Australia, the Black Sea, China, Denmark, Japan, Pakistan, Siberia, Sierra Leone, Sudan, the United Kingdom, Venezuela, and Montana—and the government of each location establishes a team to answer the all-important question: What are the intentions of the alien passengers? Dr. Banks joins Colonel Weber’s Montana-based team, and applies her expertise and unique insights to understand the alien language so that this question can be answered. There’s a lot riding on the team’s success. After all, the aliens could possess the capability and will to destroy the earth!

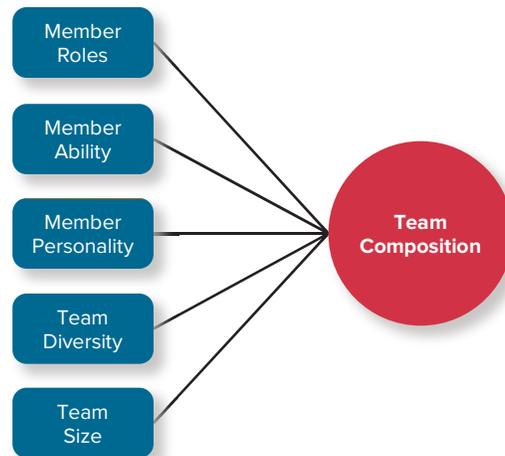


©Atlaspix/Alamy

Although the film centers on the role played by Dr. Banks, it also depicts a team with high levels of task, goal, and outcome interdependence. Technicians operate various pieces of equipment used by engineers and scientists from different fields who collaborate to interpret the meaning of the complex symbols used by the aliens to communicate. Members of the team share the same goal of trying to figure out what’s going on. And of course, members of the team share the same fate if they fail to achieve this goal and the aliens’ intentions are less than friendly. The film also illustrates that interdependence does not only occur within teams, but it also occurs between teams as well. Initially, teams from the 12 sites share what they learn, so that, together, they can work to resolve the situation. Over time, disagreements among the teams begin to surface, and the teams stop communicating with one another. However, because the aliens are in contact with each other, it’s clear to all that an action taken by one team has consequences to all the teams. For example, when it becomes evident that the Chinese team is preparing to attack the aliens, members of Weber’s team argue for a preemptive strike against the aliens in anticipation of their potential retaliation.

elements combine to influence team functioning and effectiveness. As shown in Figure 11-4, five aspects of team composition are crucial: roles, ability, personality, diversity, and team size.

MEMBER ROLES A **role** is defined as a pattern of behavior that a person is expected to display in a given context.⁴³ In a team setting, there are a variety of roles that members can take or develop in the course of interacting with one another, and depending on the specific situation,

FIGURE 11-4 Five Aspects of Team Composition


the presence or absence of members who possess these roles may have a strong impact on team effectiveness.⁴⁴ One obvious way that roles can be distinguished is by considering the specific sets of task-focused activities that define what the individual members are expected to do for their team. For example, a soccer team consists of members who play positions, such as forward, midfielder, defender, and goal keeper, that have unique responsibilities on the field. As another example, top management teams often include a chief financial officer, a chief operations officer, and a chief marketing officer. These team members may work together to develop and implement an appropriate firm strategy, but they also have unique functional responsibilities related to day-to-day operations of the firm.

Another way to distinguish roles is to consider what leaders and members do. In **leader-staff teams**, the leader makes decisions for the team and provides direction and control over members who perform assigned tasks, so this distinction makes sense in that the responsibilities of the leader and the rest of the team are distinct.⁴⁵ Typically, however, team members have some latitude with respect to the behaviors they exhibit. In these situations, team roles can be described in terms of categories that are more general than the task-focused roles described earlier. By general, we mean that these roles can apply to many different types of teams. As shown in Table 11-3, these general roles include team task roles, team-building roles, and individualistic roles.⁴⁶

Team task roles refer to behaviors that directly facilitate the accomplishment of team tasks. Examples include the *orienter* who establishes the direction for the team, the *devil's advocate* who offers constructive challenges to the team's status quo, and the *energizer* who motivates team members to work harder toward team goals. As you may have realized, the importance of specific task-oriented roles depends on the nature of the work in which the team is involved. The orienter role may be particularly important in teams that have autonomy over how to accomplish their work. The devil's advocate role may be particularly important in team contexts in which decisions are "high stakes" in nature. Finally, the energizer role may be most important in team contexts in which the work is important but not intrinsically motivating.

In contrast to task-oriented roles, **team-building roles** refer to behaviors that influence the quality of the team's social climate. For example, a team member who tends to be helpful to other team members is fulfilling an important team-building role. Indeed, it has been shown that a single team member who goes the extra mile in this way inspires greater levels of participation from other members of the team.⁴⁷ Similarly, a member who lightens things up during a contentious team meeting by doing something humorous is also fulfilling a team-building role. The simple act of telling a joke may foster additional humor and, in turn, a positive climate that enhances team functioning and performance.⁴⁸ Specific examples of team-building roles include the *harmonizer* who steps in to

TABLE 11-3 Team and Individualistic Roles

TEAM TASK ROLES	DESCRIPTION
Initiator-contributor	Proposes new ideas
Coordinator	Tries to coordinate activities among team members
Orienter	Determines the direction of the team's discussion
Devil's advocate	Offers challenges to the team's status quo
Energizer	Motivates the team to strive to do better
Procedural-technician	Performs routine tasks needed to keep progress moving
TEAM-BUILDING ROLES	DESCRIPTION
Encourager	Praises the contributions of other team members
Harmonizer	Mediates differences between group members
Compromiser	Attempts to find the halfway point to end conflict
Gatekeeper-expediter	Encourages participation from teammates
Standard setter	Expresses goals for the team to achieve
Follower	Accepts the ideas of teammates
INDIVIDUALISTIC ROLES	DESCRIPTION
Aggressor	Deflates teammates, expresses disapproval with hostility
Blocker	Acts stubbornly resistant and disagrees beyond reason
Recognition seeker	Braggs and calls attention to himself or herself
Self-confessor	Discloses personal opinions inappropriately
Slacker	Acts cynically, or nonchalantly, or goofs off
Dominator	Manipulates team members for personal control

Source: Adapted from K. Benne and P. Sheats, "Functional Roles of Group Members," *Journal of Social Issues* 4 (1948), pp. 41-49.

resolve differences among teammates, the *encourager* who praises the work of teammates, and the *compromiser* who helps the team see alternative solutions that teammates can accept. In sum, and as you may have gathered as you read these examples, the presence of members who take on team-building roles helps their teams manage conflicts that could hinder team effectiveness.

Finally, whereas task roles and team-building roles focus on activities that benefit the team, **individualistic roles** reflect behaviors that benefit the individual at the expense of the team. For example, the *aggressor* "puts down" or deflates fellow teammates. The *recognition seeker* takes credit for team successes. The *dominator* manipulates teammates to acquire control and power. If you've ever had an experience in a team in which members took on individualistic roles, you probably realize just how damaging they can be to the team. Individualistic role behaviors foster negative feelings among team members, which serve to hinder a team's ability to function and perform effectively.⁴⁹

MEMBER ABILITY Team members possess a wide variety of abilities (see Chapter 10 on ability for more discussion of such issues). Depending on the nature of the tasks involved in the team's work, some of these may be important to consider in team design. For example, for teams involved in physical work, relevant physical abilities will be important to take into account. Consider the types of abilities that are required of pit crew members in stock car racing, where margins of victory can be one-tenth of a second. When a car pulls into pit row, crew members need to leap over the pit wall and lift heavy tires, jacks, and other equipment to get the race car back on the

track—ideally in about 14 seconds. In this setting, flexibility, cardiovascular endurance, and explosive strength are required, and in fact, racing teams have hired professional trainers and even built gyms to improve these abilities of their pit crew members.⁵⁰

It's also important to take cognitive abilities into account when designing teams. General cognitive ability is important to many different types of teams. In general, smarter teams perform better because teamwork tends to be quite complex.⁵¹ Team members not only have to be involved in several different aspects of the team's task, but they also have to learn how best to combine their individual efforts to accomplish team goals.⁵² In fact, the more that this type of learning is required, the more important member cognitive ability becomes. For example, research has shown that cognitive ability is more important to teams when team members have to learn from one another to adapt to unexpected changes, compared with contexts in which team members perform their assigned tasks in a routine fashion.⁵³

Of course, not every member needs high levels of these physical or cognitive abilities. If you've ever played Trivial Pursuit using teams, you might recall playing against another team in which only one of the team members was smart enough to answer any of the questions correctly. In fact, in tasks with an objectively verifiable best solution, the member who possesses the highest level of the ability relevant to the task will have the most influence on the effectiveness of the team. These types of tasks are called **disjunctive tasks**.⁵⁴ You may also recall situations in which it was crucial that everyone on the team possessed the relevant abilities. Returning to the pit crew example, stock cars cannot leave the pit area until all the tires are mounted, and so the length of the pit stop is determined by the physical abilities of the slowest crew member. Tasks like this, for which the team's performance depends on the abilities of the "weakest link," are called **conjunctive tasks**. Finally, there are **additive tasks**, for which the contributions resulting from the abilities of every member "add up" to determine team performance. The amount of money that a Girl Scout troop earns from selling Thin Mints and Samoas is the sum of what each Girl Scout is able to sell on her own.

MEMBER PERSONALITY Team members also possess a wide variety of personality traits (see Chapter 9 on personality and cultural values for more discussion of such issues). These personality traits affect the roles that team members take on,⁵⁵ the norms that develop on the team,⁵⁶ and ultimately, how teams function and perform as units.⁵⁷ For example, the agreeableness of team members has an important influence on team effectiveness.⁵⁸ Why? Because agreeable people tend to be more cooperative and trusting, and these tendencies promote positive attitudes about the team and smooth interpersonal interactions. Moreover, because agreeable people may be more concerned about their team's interests than their own, they should work hard on behalf of the team.⁵⁹ There's a caveat regarding agreeableness in teams, however. Because agreeable people tend to prefer harmony and cooperation rather than conflict and competition, they may be less apt to speak up and offer constructive criticisms that might help the team improve.⁶⁰ Thus, if a team is composed of too many highly agreeable members, there's a chance that the members will behave in a way that enhances harmony of the team at the expense of task accomplishment.⁶¹

As another example, team composition in terms of members' conscientiousness is important to teams.⁶² After all, almost any team would benefit from having members who tend to be dependable and work hard to achieve team goals. What might be less obvious to you is the strong negative effect on the team of having even one member who is particularly low on conscientiousness.⁶³ To understand why this is true, consider how you would react to a team member who was not dependable and did not appear to be motivated to work hard toward team goals. If you're like most people, you would find the situation dissatisfying, and you would consider different ways of dealing with it. Some people might try to motivate the person to be more responsible and work harder; others might try to get the person ejected from the team.⁶⁴ The problem is that these natural reactions to a low conscientiousness team member not only divert attention away from accomplishing work responsibilities, but they also can result in some very uncomfortable and time-consuming interpersonal conflicts. Moreover, even if you and the other members of the team work harder to compensate for this person, it would be difficult for your team to perform as effectively as other teams in which all members are more interpersonally responsible and engaged in the team's work.

Finally, the personality characteristic of extraversion is relevant to team composition.⁶⁵ People who are extraverted tend to perform more effectively in interpersonal contexts and are more positive and optimistic in general.⁶⁶ Therefore, it shouldn't surprise you to read that having extraverted

A task that can go only as quickly as the slowest team member, like a pit stop in a car race, is a conjunctive task.



©Action Sports Photography/Shutterstock

team members is generally beneficial to the social climate of the group, as well as to team effectiveness in the eyes of supervisors.⁶⁷ At the same time, however, research has shown that having too many members who are very high on extraversion can hurt the team. The reason for this can be attributed to extraverts' tendency to be assertive and dominant. As you would expect when there are too many members with these types of tendencies, power struggles and unproductive conflict occur with greater frequency.⁶⁸

11.4

What are the types of team diversity and how do they influence team functioning?

DIVERSITY Another aspect of team composition refers to the degree to which members are different from one another in terms of any attribute that might be used by someone as a basis of categorizing people. We refer to those differences as **team diversity**.⁶⁹ Trying to understand the effects of diversity on teams is difficult because there are so many different characteristics that may be used to categorize people. Beyond obvious differences among people in their physical appearance, there can be separation among members in terms of their values and beliefs, variety among members in their knowledge and expertise, and disparity among members in their social status, power, and even their sense of time urgency and the way they like to pace their work.⁷⁰ Moreover, diversity of team member characteristics may matter more or less depending on the nature of the team and organizational context.⁷¹ For example, you might imagine how the dynamics in a team consisting of both men and women could vary depending on whether the team is in an organization dominated by men (or women) or whether it's balanced in terms of the employees' sex. Finally, there are multiple reasons different types of diversity influence team functioning and effectiveness, and some of these reasons seem contradictory.⁷²

One predominant theory that has been used to explain why diversity has positive effects is called the **value in diversity problem-solving approach**.⁷³ According to this perspective, diversity in teams is beneficial because it provides for a larger pool of knowledge and perspectives from which a team can draw as it carries out its work.⁷⁴ Having greater diversity in knowledge perspectives stimulates the exchange of information, which in turn fosters learning among team members.⁷⁵ The knowledge that results from this learning is then shared and integrated with the knowledge of other members, ultimately helping the team perform more effectively.⁷⁶ Research has shown that these benefits of diversity are more likely to occur when the team includes members who are able and willing to put in the effort necessary to understand and integrate different perspectives.⁷⁷ Teams that engage in work that's relatively complex and requires creativity tend to benefit most from diversity, and research on teams that are diverse in terms of many different characteristics related to knowledge and perspectives—ethnicity, expertise, personality, attitudes—supports this idea.⁷⁸

A theory that's been used widely to explain why diversity may have detrimental effects on teams is called the **similarity-attraction approach**.⁷⁹ According to this perspective, people tend to

be more attracted to others who are perceived as more similar. People also tend to avoid interacting with those who are perceived to be dissimilar, to reduce the likelihood of having uncomfortable disagreements. Consistent with this perspective, research has shown that diversity on attributes such as cultural background, race, and attitudes is associated with communication problems and ultimately poor team effectiveness.⁸⁰

So it appears that there are two different theories about diversity effects that are relevant to teams, and each has been supported in research. Which perspective is correct? As it turns out, a key to understanding the impact of team diversity requires that you consider both the general type of diversity and the length of time the team has been in existence.⁸¹

Surface-level diversity refers to diversity regarding observable attributes such as race, ethnicity, sex, and age.⁸² Although this type of diversity may have a negative impact on teams early in their existence because of similarity-attraction issues, those negative effects tend to disappear as members become more knowledgeable about one another. In essence, the stereotypes that members have about one another based on surface differences are replaced with knowledge regarding underlying characteristics that are more relevant to social and task interactions.⁸³

One complication here is that *fault lines* often occur in diverse groups, whereby informal subgroups develop based on similarity in surface-level attributes such as gender or other characteristics.⁸⁴ The problem with fault lines is that knowledge and information possessed by one subgroup may not be communicated to other subgroups in a manner that might help the entire team perform more effectively. In a study of boards of directors, for example, the presence of strong fault lines decreased the amount of discussion that board members had with each other in regards to entrepreneurial issues that could affect their companies.⁸⁵ Research has shown, however, that the effects of subgroups depend on the type of subgroup, and that detrimental effects of having subgroups can be offset with training that reinforces the idea that teams may benefit from their diversity.⁸⁶ Leadership or reward practices that reinforce the value of sharing information and promote a strong sense of team identity also help diverse teams perform more effectively.⁸⁷

Deep-level diversity, in contrast, refers to diversity with respect to attributes that are less easy to observe initially but that can be inferred after more direct experience. Differences in attitudes, values, and personality are good examples of deep-level diversity.⁸⁸ In contrast to the effects of surface-level diversity, time appears to increase the negative effects of deep-level diversity on team functioning and effectiveness.⁸⁹ Over time, as team members learn more about one another, differences that relate to underlying values and goals become increasingly apparent. Those differences can therefore create problems among team members that ultimately result in reduced effectiveness.

Fortunately, it appears that the negative effects of deep-level diversity can be managed.⁹⁰ As an example, diversity in members' approach to pursuing goals has been shown to hinder team functioning and effectiveness, but this effect can be reduced if teams are instructed to take the time to reflect on their progress toward goals and their strategies.⁹¹ Deep-level diversity has also been shown to have positive effects on team creativity when members are instructed to take the perspective of their teammates.⁹² As another example, negative effects of deep-level diversity with respect to members' values have been found to be reduced when team leaders emphasize the teams' task and provide explicit direction regarding team procedures, standards, roles, and expectations.⁹³ We should also point out, however, that team leaders can also exacerbate problems associated with deep-level diversity. Conflict that results from diversity in members' values appears to increase in teams with leaders who emphasize things like freedom of expression and participation.⁹⁴ See our **OB Internationally** feature for a discussion of the challenges of managing deep-level diversity in teams that include members from different cultures.

We also should mention an important caveat here. Although personality is normally considered a deep-level diversity variable,⁹⁵ some specific personality types do not function this way.⁹⁶ In the previous section on personality, for example, we pointed out that though having team



©Fuse/Getty Images

Surface-level diversity can sometimes create issues for teams as they begin their tasks, but such problems usually disappear over time.

OB INTERNATIONALLY

Businesses are increasingly using teams composed of members from different cultures, and so teams today often possess members who differ from one another in terms of their attitudes, values, ideas, goals, and behaviors. These types of teams, called *multicultural teams*, can approach problems from several different perspectives, which opens the door to highly innovative solutions. Cultural diversity also allows teams to serve a diverse customer base that may differ in terms of culture and nationality.

Unfortunately, the attributes that give multicultural teams these advantages also give them disadvantages. As an example, people from different cultures communicate differently, which can lead to misunderstandings. For example, to people in the United States, the phrase “to table something” means to put it off until later, whereas to people in some European countries, it means discuss it right now. Imagine your reaction if you didn’t know this difference, and you told a team you were leading that you wanted to table something, and then one of your team members started to discuss options and recommendations about the issue. There are differences in the directness of communications as well. Westerners tend to be very direct and to the point, but to people in other countries, such as Japan, this directness may cause embarrassment and a sense of disrespect. There are also cultural differences in decision-making processes. In some cultures, decisions can be made only after careful consideration and reconsideration of all relevant issues, which is much different from the style in other cultures, such as the United States, where decisions are made rather quickly and with less analysis. Although these differences might seem trivial, they often lead to misunderstandings that reduce the willingness of team members to cooperate.

So how can multicultural teams be managed to ensure the advantages outweigh the disadvantages? Although there’s no one best way to manage multicultural teams, one proven approach is to encourage team members to take the time to communicate openly with each other about cultural differences and to proactively develop strategies the team can use to accommodate them.

Sources: J. Brett, K. Behfar, and M.C. Kern, “Managing Multicultural Teams,” *Harvard Business Review* 84 (November 2006), pp. 84–91; S. Gupta, “Mine the Potential of Multicultural Teams: Mesh Cultural Differences to Enhance Productivity,” *HR Magazine* (October 2008), pp. 79–84; M. Harris, *Cultural Anthropology*, 2nd ed. (New York: Harper and Row, 1987); and H.C. Triandis, *Culture and Social Behavior* (New York: McGraw-Hill, 1994).

members who are extraverted and agreeable is generally a good thing, problems arise if a team has too many members with these attributes. So whereas diversity on most deep-level characteristics is problematic for teams, this claim does not apply to extraversion and agreeableness, because for these two personality characteristics, teams are likely to benefit from having a mix of members.

TEAM SIZE Two adages are relevant to team size: “the more the merrier” and “too many cooks spoil the pot.” Which statement do you believe is true in terms of how many members to include on a team? The answer, according to the results of one meta-analysis, is that having a greater number of members is beneficial for management and project teams but not for teams engaged in production tasks.⁹⁷ Management and project teams engage in work that’s complex and knowledge intensive, and these teams therefore benefit from the additional resources and expertise contributed by additional members.⁹⁸ In contrast, production teams tend to engage in routine tasks that are less complex. Having additional members beyond what’s necessary to accomplish the work tends to result in unnecessary coordination and communication problems. Additional members therefore may be less productive because there’s more socializing, and they feel less accountable for team outcomes.⁹⁹ Although making a claim about the absolute best team size is impossible, research with undergraduate students concluded that team members tend to be most satisfied with their team when the number of members is between four and five.¹⁰⁰ Of course, there are

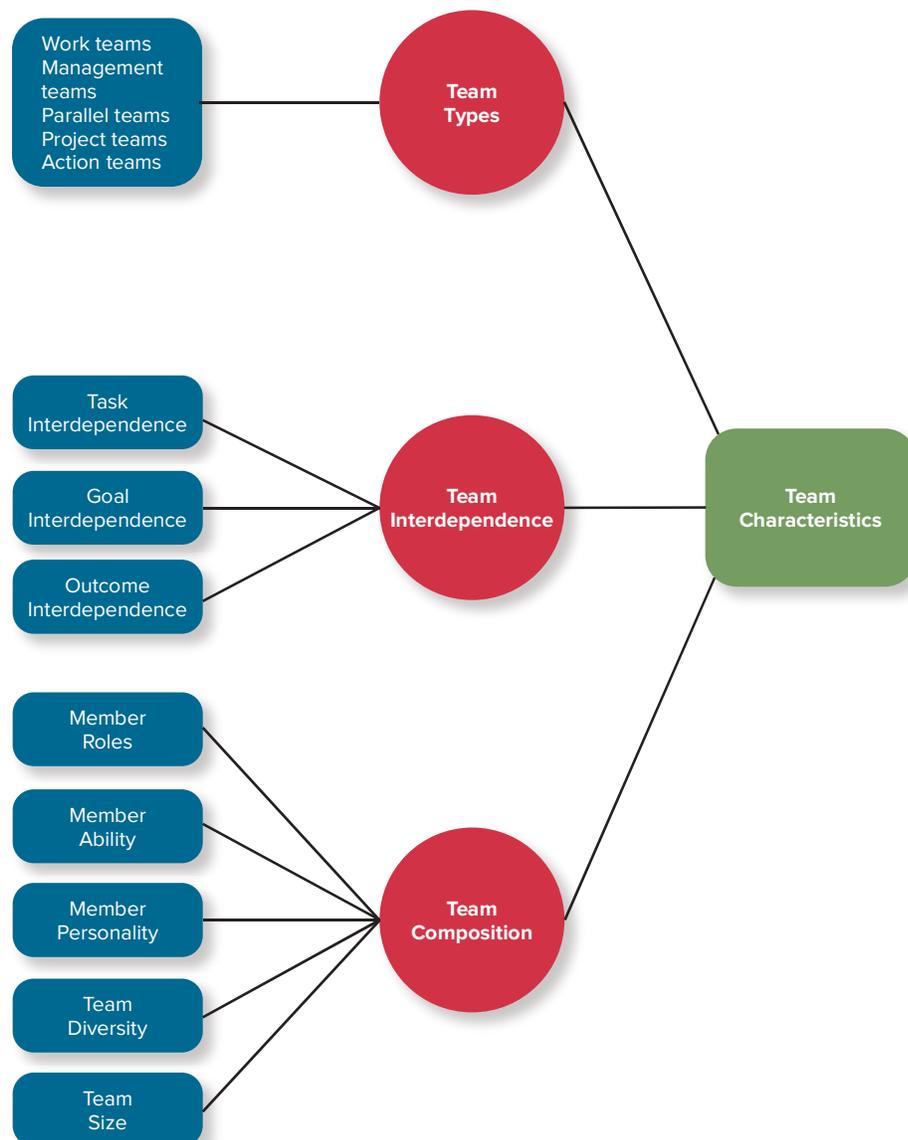
other rules of thumb you can use to keep team size optimal. Jeff Bezos, the CEO of Amazon.com, uses the two-pizza rule: “If a team can’t be fed by two pizzas, it’s too large.”¹⁰¹

SUMMARY: WHAT CHARACTERISTICS CAN BE USED TO DESCRIBE TEAMS?

The preceding sections illustrate that there are a variety of characteristics that can be used to describe teams. As Figure 11-5 illustrates, teams can be described using taxonomies of team types. For example, teams can be described by categorizing them as a work team, a management team, a parallel team, a project team, or an action team. Teams can also be described using the nature of the team’s interdependence with regard to its task, goals, and outcomes. Finally, teams can be described in terms of their composition. Relevant member characteristics include member roles, member ability, member personality, member diversity, and team size.

FIGURE 11-5

What Characteristics Can Be Used to Describe Teams?



HOW IMPORTANT ARE TEAM CHARACTERISTICS?

In previous chapters, we have described individual characteristics and mechanisms and discussed how these variables affect individual performance and commitment. In this chapter, we're concerned with team characteristics, and so naturally, we're interested in how they influence team effectiveness. One aspect of team effectiveness is *team performance*, which may include metrics such as the quantity and quality of goods or services produced, customer satisfaction, the effectiveness or accuracy of decisions, victories, completed reports, and successful investigations. Team performance in the context of student project teams most often means the quality with which the team completes assignments and projects, as well as the grades they earn.

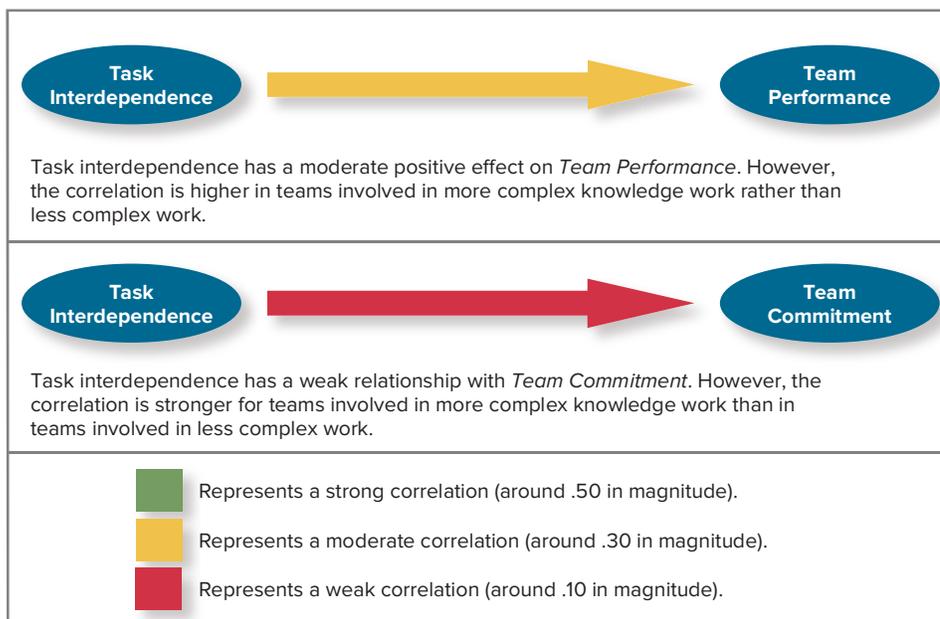
A second aspect of team effectiveness is team commitment, which is sometimes called *team viability*. **Team viability** refers to the likelihood that the team can work together effectively into the future.¹⁰² If the team experience is not satisfying and the members do not feel a bond with one another or with the team itself, members may become disillusioned and focus their energy on activities away from the team. Although a team with low viability might be able to work together on short-term projects, over the long run, a team such as this is bound to have significant problems.¹⁰³ Rather than planning for future tasks and working through issues that might improve the team, members of a team with low viability are more apt to be looking ahead to the team's ultimate demise.

Of course, it's difficult to summarize the relationship between team characteristics and team performance and commitment when there are so many characteristics that can be used to describe teams. Here we focus our discussion on the impact of task interdependence. We focus on task interdependence because it's one of the most important characteristics that distinguishes true teams from mere groups of individuals. As Figure 11-6 shows, it turns out that the relationship between

11.5

How do team characteristics influence team effectiveness?

FIGURE 11-6 Effects of Task Interdependence on Performance and Commitment



Sources: M.A. Campion, G.J. Medsker, and A.C. Higgs, "Relations between Work Group Characteristics and Effectiveness: Implications for Designing Effective Work Groups," *Personnel Psychology* 46 (1993), pp. 823-49; M.A. Campion, E.M. Papper, and G.J. Medsker, "Relations between Work Team Characteristics and Effectiveness: A Replication and Extension," *Personnel Psychology* 49 (1996), pp. 429-52; S.H. Courtright, G.R. Thurgood, G.L. Stewart, and A.J. Pierotti, "Structural Interdependence in Teams: An Integrative Framework and Meta-Analysis," *Journal of Applied Psychology* 100 (2015), pp. 1825-1846; and G.L. Stewart, "A Meta-Analytic Review of Relationships between Team Design Features and Team Performance," *Journal of Management* 32 (2006), pp. 29-54.

task interdependence and team performance is moderately positive.¹⁰⁴ That is, task performance tends to be higher in teams in which members depend on one another and have to coordinate their activities rather than when members work more or less independently. It's important to mention that the relationship between task interdependence and team performance varies somewhat depending on how team performance is measured. Additionally, the relationship tends to be significantly stronger in teams that are responsible for completing complex knowledge work rather than simple tasks. When work is more complex, interdependence is necessary because there's a need for members to interact and share resources and information. When work is simple, sharing information and resources is less necessary because members can do the work by themselves.

In the lower portion of Figure 11-6, you can see that the relationship between task interdependence and team commitment is weaker.¹⁰⁵ Teams with higher task interdependence have only a slightly higher probability of including members who are committed to their team's continued existence. As with the relationship with team performance, task interdependence has a stronger effect on viability for teams doing complex knowledge work. Apparently, sharing resources and information in a context in which it's unnecessary is dissatisfying to members and results in a team with reduced prospects of continued existence.

APPLICATION: TEAM COMPENSATION

Although all team characteristics have implications for managerial practices, outcome interdependence is particularly relevant for two reasons. First, outcome interdependence has obvious connections to compensation practices in organizations,¹⁰⁶ and most of us are interested in factors that determine how we get paid. If you work for an organization with compensation that has high outcome interdependence, a higher percentage of your pay will depend on how well your team does. If you work for an organization with compensation that has low outcome interdependence, a lower percentage of your pay will depend on how well your team does.

A second reason outcome interdependence is important to consider is that it presents managers with a tough dilemma. High outcome interdependence promotes higher levels of cooperation because members understand that they share the same fate—if the team wins, everyone wins, and if the team fails, everyone fails.¹⁰⁷ At the same time, high outcome interdependence may result in reduced motivation, especially among higher performing members. High performers may perceive that they're not paid in proportion to what they contributed to the team and that their teammates are taking advantage of this inequity for their own benefit.¹⁰⁸

One solution to this dilemma has been to design team reward structures with **hybrid outcome interdependence**, which means that members receive rewards that are dependent on both their team's performance and how well they perform as individuals.¹⁰⁹ In fact, the majority of organizations that use teams use some sort of hybrid outcome interdependence. But what percentage of team members' pay is typically based on team performance in business organizations? This is a difficult question to answer, because as we discussed earlier in the chapter, there are so many different types of teams doing so many different types of tasks, and also because organizations vary dramatically in their approaches to rewarding their employees. For example, the size of team-based pay in the goods and service sectors averages around 10–12 percent of an employee's base pay.¹¹⁰ In contrast, production workers at Nucor, the Crawfordsville, Indiana-based steel company, earn team-based bonuses of 170 percent of their base pay, on average.¹¹¹ It's important to note that hybrid outcome interdependence, in and of itself, may not always be that effective in promoting team functioning and effectiveness. Research conducted at Xerox, for example, shows that service teams with hybrid outcome interdependence are less effective than service teams with very high or very low levels of outcome interdependence.¹¹² Part of the problem with hybrid outcome interdependence is that it can lead to uncertainty about which types of behaviors are being rewarded and how pay ultimately is determined. To make hybrid interdependence work, organizations need to ensure that the system makes sense to employees. At Nucor, most production workers know within one-tenth of 1 percent what the team's bonus is for the week, as well as which products will be produced next and how these future operations will likely affect their bonuses.¹¹³

11.6

How can team compensation be used to manage team effectiveness?

One way to resolve the dilemma of outcome interdependence is to implement a level of team-based pay that matches the level of task interdependence. Members tend to be more productive in high task interdependence situations when there's also high outcome interdependence. Similarly, members prefer low task interdependent situations when there's low outcome interdependence.¹¹⁴ To understand the power of aligning task and outcome interdependence, consider scenarios in which there's not a good match. For example, how would you react to a situation in which you worked very closely with your teammates on a team project in one of your classes, and though your professor said the team's project was outstanding, she awarded an A to one of your team members, a B to another, and a C to you? Similarly, consider how you would react to a situation in which you scored enough points for an A on your final exam, but your professor averaged everyone's grades together and gave all students a C. Chances are you wouldn't be happy with either scenario.

TAKEAWAYS

- 11.1** There are several different types of teams—work teams, management teams, action teams, project teams, and parallel teams—but many teams in organizations have characteristics that fit in multiple categories and differ from one another in other ways.
- 11.2** Teams can be interdependent in terms of the team task, goals, and outcomes. Each type of interdependence has important implications for team functioning and effectiveness.
- 11.3** Team composition refers to the characteristics of the members who work in the team. These characteristics include roles, ability, personality, and member diversity, as well as the number of team members.
- 11.4** The effect of diversity on the team depends on time and whether the diversity is surface level or deep level. The effects of surface-level diversity tend to diminish with time, whereas the effects of deep-level diversity tend to increase over time.
- 11.5** Task interdependence has a moderate positive relationship with team performance and a weak relationship with team commitment.
- 11.6** Outcome interdependence has important effects on teams, which can be managed with compensation practices that take team performance into account.

KEY TERMS

• Team	<i>p. 338</i>	• Task interdependence	<i>p. 345</i>
• Work team	<i>p. 339</i>	• Pooled interdependence	<i>p. 345</i>
• Management team	<i>p. 339</i>	• Sequential interdependence	<i>p. 345</i>
• Parallel team	<i>p. 340</i>	• Reciprocal interdependence	<i>p. 345</i>
• Project team	<i>p. 341</i>	• Comprehensive interdependence	<i>p. 346</i>
• Action team	<i>p. 342</i>	• Goal interdependence	<i>p. 348</i>
• Virtual team	<i>p. 343</i>	• Outcome interdependence	<i>p. 348</i>
• Forming	<i>p. 343</i>	• Team composition	<i>p. 349</i>
• Storming	<i>p. 343</i>	• Role	<i>p. 350</i>
• Norming	<i>p. 343</i>	• Leader–staff teams	<i>p. 351</i>
• Performing	<i>p. 344</i>	• Team task roles	<i>p. 351</i>
• Adjourning	<i>p. 344</i>	• Team-building roles	<i>p. 351</i>
• Punctuated equilibrium	<i>p. 344</i>	• Individualistic roles	<i>p. 352</i>

- Disjunctive tasks *p. 353*
- Conjunctive tasks *p. 353*
- Additive tasks *p. 353*
- Team diversity *p. 354*
- Value in diversity problem-solving approach *p. 354*
- Similarity-attraction approach *p. 354*
- Surface-level diversity *p. 355*
- Deep-level diversity *p. 355*
- Team viability *p. 358*
- Hybrid outcome interdependence *p. 359*

DISCUSSION QUESTIONS

- 11.1** In which types of teams have you worked? Were these teams consistent with the taxonomy of team types discussed in this chapter, or were they a combination of types?
- 11.2** Think about your student teams. Which aspects of both models of team development apply the most and least to teams in this context? Do you think these teams function best in an additive, disjunctive, or conjunctive manner? What are the advantages and disadvantages of each structure?
- 11.3** Think about a highly successful team with which you are familiar. What types of task, goal, and outcome interdependence does this team have? Describe how changes in task, goal, and outcome interdependence might have a negative impact on this team.
- 11.4** What type of roles do you normally take on in a team setting? Are there task or social roles that you simply don't perform well? If so, why do you think this is?
- 11.5** How would you describe your student team in terms of its diversity? In what ways would there be advantages and disadvantages to increasing its diversity? How might you be able to manage some of the disadvantages so that your team is able to capitalize on the potential advantages?

CASE: WHOLE FOODS

Teams are taken very seriously at Whole Foods. Not only are company employees referred to as “team members,” but teams are given a great deal of freedom to make important decisions. For example, teams help decide what items to order and sell, and how to price and promote them. Although it might not seem all that unusual for a company to give teams the liberty to make decisions so they can carry out their core functional responsibilities, Whole Foods goes much further in providing autonomy to their teams. Perhaps there is no better example of this than how new team members are hired at the company.

In most organizations, individuals seeking employment fill out an application form or submit a résumé. Those with qualifications that are judged to match a job description are interviewed by human resource personnel or a manager to make sure the applicant fits with the job and organization. At Whole Foods, the process is quite different and much more involved. Applicants not only fill out an application and have one-on-one interviews with managers, but they also have interviews with panels composed of recruiters, managers, and select team members. But that's not all. An applicant who makes it through this process is placed on a team for a 30-day trial period, after which the team votes for whether or not to accept the applicant on their team. Applicants who don't get a two-thirds vote are out of that team. They may be placed on a new team, where the trial process begins anew, or they leave the company.

This hiring process typically takes about 60 days and is applied at all levels of the organization, “from cashiers on checkout teams to financial analysts in the home office.” Whole Foods believes

that hiring decisions should be made by the team members, in part, because they're the ones who are most directly affected by the choices that are made. A new hire who ends up hurting a team's performance will reduce bonuses paid to team members, whereas the opposite would be true of a hire that ends up promoting a team's performance. Whole Foods also believes that the team members themselves are the best judges of who might fit within their team. Finally, involving team members in the hiring process promotes a sense of ownership for the decision, and following from this, team members may be more inclined to help a new hire who is struggling to catch on.

- 11.1 What label would best describe the type of team that Whole Foods uses in its stores? Explain.
- 11.2 Describe the advantages and disadvantages of Whole Foods' hiring process with respect to managing team composition.
- 11.3 What steps could Whole Foods take to mitigate potential disadvantages of their hiring process?

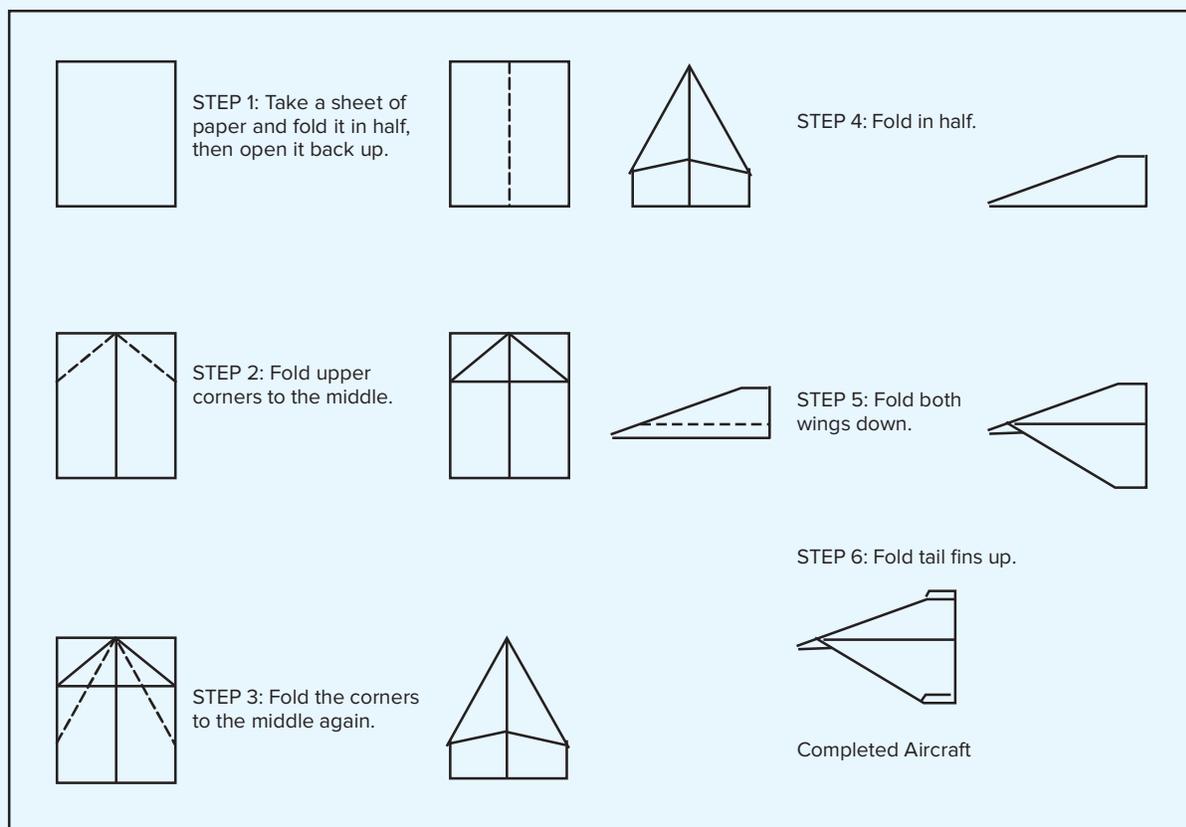
Sources: D. Burkus, "Why Whole Foods Builds Its Entire Business on Teams," *Forbes*, June 8, 2016, <https://www.forbes.com/sites/davidburkus/2016/06/08/why-whole-foods-build-their-entire-business-on-teams/#1553674b3fa1>; C. Fishman, "Whole Foods Is All Teams," *Fastcompany*, April 30, 1996, <https://www.fastcompany.com/26671/whole-foods-all-teams>; Whole Foods, "Whole Foods Market History," <http://www.wholefoodsmarket.com/company-info/whole-foods-market-history> (accessed 3, 31, 2017).

EXERCISE: PAPER PLANE CORPORATION

The purpose of this exercise is to analyze the advantages and disadvantages of sequential versus pooled interdependence on a team production project. This exercise uses groups, so your instructor will either assign you to a group or ask you to create your own group. The exercise has the following steps.

- 11.1 Your professor will supply you with the materials you need to create your final product (as many paper airplanes as you can fold to quality standards in three 5-minute rounds). Instructions for folding the paper airplanes and judging their quality are provided below. Before you start work on your airplanes, do the following:
 - a. As a group, select a team manager (who will supervise operations and get additional resources as needed) and a team inspector (who will judge the quality of the work on airplanes).
 - b. Familiarize yourself with how to make a paper airplane by folding one according to the instructions.
 - c. Be sure you are in a space where all of the team members can work comfortably.
 - d. To the extent possible, move away from other groups.
 - e. Familiarize yourself with the information about the Paper Plane Corporation.
- 11.2 Your group is the complete workforce for the Paper Plane Corporation. Established in 1943, Paper Plane has led the market in paper plane production. Presently under new management, the company is contracting to make aircraft for the U.S. Air Force. You must determine the most efficient method for producing these aircraft. You must make your contract with the Air Force under the following conditions:
 - a. The Air Force will pay \$200,000 per airplane.
 - b. The aircraft must pass a strict inspection by a quality control manager.
 - c. A penalty of \$250,000 per airplane will be subtracted for each failure to meet the production requirements.
 - d. Labor and other overhead will be computed at \$3,000,000.
 - e. Cost of materials will be \$30,000 per bid plane. If you bid for 10 but make only 8, you must pay the cost of materials for those you failed to make or those that did not pass inspection.

- 11.3** In the first round of the airplane manufacturing process, the Air Force has asked you to focus on individuality. Each Paper Plane worker should manufacture his or her own planes from start to finish. When each plane is finished, it should be put in a central location for quality inspection. When time is called, you will record your team profit on the Summary Sheet.
- 11.4** In the second round of manufacturing, the Air Force has asked you to give each worker a specific job. In other words, the manufacturing process will take place in an assembly-line fashion. When planes come off the assembly line, they will be given directly to the quality control manager for inspection. When time is called, you will record your team profit on the Summary Sheet.
- 11.5** In the final round of manufacturing, the Air Force has asked your team to devise a manufacturing process that will maximize both efficiency and effectiveness. You may do whatever you like in terms of creating paper airplanes. You will have the same amount of time that you did in the two previous rounds. When time is called, you will record your team profit on the Summary Sheet.
- 11.6** Class discussion (whether in groups or as a class) should center on the following questions:
- Did pooled interdependence (Round 1) or sequential interdependence (Round 2) work better for your group in terms of the number of planes made correctly? Why do you think you got the result you did?
 - How did you change your work structure in Round 3? Did the changes you implemented help you achieve better productivity? Why or why not?
 - From your perspective, what are the advantages and disadvantages of pooled and/or sequential interdependence?



Round 1

Bid: _____ Aircraft @ \$200,000 per aircraft = _____

Results: _____ Aircraft @ \$200,000 per aircraft = _____

Subtract: \$3,000,000 overhead + _____ × \$30,000 cost of raw materials + _____ × \$250,000 penalty for not completing a bid plane = _____

Profit: _____

Round 2

Bid: _____ Aircraft @ \$200,000 per aircraft = _____

Results: _____ Aircraft @ \$200,000 per aircraft = _____

Subtract: \$3,000,000 overhead + _____ × \$30,000 cost of raw materials + _____ × \$250,000 penalty for not completing a bid plane = _____

Profit: _____

Round 3

Bid: _____ Aircraft @ \$200,000 per aircraft = _____

Results: _____ Aircraft @ \$200,000 per aircraft = _____

Subtract: \$3,000,000 overhead + _____ × \$30,000 cost of raw materials + _____ × \$250,000 penalty for not completing a bid plane = _____

Profit: _____

Source: J.M. Ivancevich, J.M. R. Konopaske, and M. Matteson. *Organizational Behavior and Management*, 7th ed. New York: McGraw-Hill/Irwin, 2005. Original exercise by Louis Potheni in Luthans, F. *Organizational Behavior*. New York: McGraw-Hill, 1985, p. 555.

ENDNOTES

- 11.1 Ilgen, D.R.; D.A. Major; J.R. Hollenbeck; and D.J. Segó. "Team Research in the 1990s." In *Leadership Theory and Research: Perspectives and Directions*, ed. M.M. Chemers and R. Ayman. New York: Academic Press, 1993, pp. 245–70.
- 11.2 Devine, D.J.; L.D. Clayton; J.L. Phillips; B.B. Dunford; and S.B. Melner. "Teams in Organizations: Prevalence, Characteristics, and Effectiveness." *Small Group Research* 30 (1999), pp. 678–711; Gordan, J. "Work Teams: How Far Have They Come?" *Training* 29 (1992), pp. 59–65; and Lawler, E.E., III; S.A. Mohrman; and G.E. Ledford Jr. *Creating High Performance Organizations: Practices and Results of Employee Involvement and Total Quality Management in Fortune 1000 Companies*. San Francisco: Jossey-Bass, 1995.
- 11.3 Stewart, G.L.; C.C. Manz; and H.P. Sims Jr. *Team Work and Group Dynamics*. New York: Wiley, 1999.
- 11.4 Ibid.
- 11.5 Boning, B; C. Ichniowski; and K. Shaw. "Opportunity Counts: Teams and the Effectiveness of Production Incentives." *Journal of Labor Economics* 25 (2007), pp. 613–50.
- 11.6 Mathieu, J.E.; J.R. Hollenbeck; D. van Knippenberg; and D.R. Ilgen. "A Century of Work Teams in the *Journal of Applied Psychology*." *Journal of Applied Psychology* 102 (2017), pp. 452–67.
- 11.7 Cohen, S.G., and D.E. Bailey. "What Makes Teams Work: Group Effectiveness Research from the Shop Floor to the Executive Suite." *Journal of Management* 23 (1997), pp. 239–90.
- 11.8 Liker, J.K. *The Toyota Way*. New York: McGraw-Hill, 2004.

- 11.9 Cohen and Bailey, "What Makes Teams Work."
- 11.10 Ibid.
- 11.11 Sundstrom, E.; M. McIntyre; T. Halfhill; and H. Richards. "Work Groups: From the Hawthorne Studies to Work Teams of the 1990s and Beyond." *Group Dynamics, Theory, Research, and Practice* 4 (2000), pp. 44-67.
- 11.12 Schlender, B. "The Man Who Built Pixar's Incredible Innovation Machine." *Fortune*, November 15, 2004, p. 206. ProQuest database (accessed May 28, 2007).
- 11.13 Hollenbeck, J.R.; B. Beersma; and M.E. Schouten. "Beyond Team Types and Taxonomies: A Dimensional Scaling Conceptualization for Team Description." *Academy of Management Review* 37 (2012), pp. 82-106.
- 11.14 Hackman, J.R. "The Design of Work Teams." In *Handbook of Organizational Behavior*, ed. J. Lorsch, Englewood Cliffs, NJ: Prentice Hall, 1987, pp. 315-42.
- 11.15 Cohen, S.G., and G.E. Ledford. "The Effectiveness of Self-Managing Teams: A Quasi-Experiment." *Human Relations* 47 (1994), pp. 13-34; Cordery, J.L.; W.S. Mueller; and L.M. Smith. "Attitudinal and Behavioral Effects of Autonomous Group Working: A Longitudinal Field Study." *Academy of Management Journal* 34 (1991), pp. 464-76; and Wall, T.D.; N.J. Kemp; P.R. Jackson; and C.W. Clegg. "Outcomes of Autonomous Work Groups: A Long-Term Field Experiment." *Academy of Management Journal* 29 (1986), pp. 280-304.
- 11.16 Hass, M.R. "The Double-Edged Swords of Autonomy and External Knowledge: Analyzing Team Effectiveness in a Multinational Organization." *Academy of Management Journal* 53 (2010), pp. 989-1008.
- 11.17 Gilson, L.L.; M.T. Maynard; N.C Jones Young; M. Vartiainen; and M. Hokonen. "Virtual Teams Research: 10 Years, 10 Themes, and 10 Opportunities." *Journal of Management* 41 (2015), pp. 1313-37.
- 11.18 Fisher, A. "How to Build a (Strong) Virtual Team." *CNNMoney.com*, December 10, 2009, http://money.cnn.com/2009/11/19/news/companies/?ibm_virtual_manager.fortune/index.htm.
- 11.19 Ubell, R. "Virtual Team Learning." *Training and Development*, August 2010, pp. 53-57.
- 11.20 Fisher, "How to Build a (Strong) Virtual Team."
- 11.21 Duckworth, H. "How TRW Automotive Helps Global Virtual Teams Perform at the Top of Their Game." *Development and Learning in Organizations* 23 (2008), pp. 6-16.
- 11.22 Schiff, D. "Global Teams Rock around the Clock." *Electronic Engineering Times* 1435 (August 7, 2006), pp. 12, 20.
- 11.23 Godinez, V. "Sunshine 24/7: As EDS' Work Stops in One Time Zone, It Picks Up in Another." *Knight Ridder Tribune Business News*, January 2, 2007, ProQuest database (accessed February 12, 2007); Schiff, "Global Teams Rock"; and Treinen, J.J., and S.L. Miller-Frost. "Following the Sun: Case Studies in Global Software Development." *IBM Systems Journal* 45 (2006), pp. 773-83.
- 11.24 Tuckman, B.W. "Developmental Sequence in Small Groups." *Psychological Bulletin* 63 (1965), pp. 384-99; and Tuckman, B.W., and M.A.C. Jensen. "Stages of Small-Group Development Revisited." *Group and Organization Management* 2 (1977), pp. 419-27.

- 11.25 Guzzo, R.A., and G.P. Shea. "Group Performance and Intergroup Relations in Organizations." *Handbook of Industrial and Organizational Psychology*, Vol. 3, ed. M.D. Dunnette and L.M. Hough, Palo Alto, CA: Consulting Psychologists Press, 1992, pp. 269-313.
- 11.26 Gersick, C.J.G. "Time and Transition in Work Teams: Toward a New Model of Group Development." *Academy of Management Journal* 33 (1988), pp. 9-41; and Gersick, C.J.G. "Marking Time: Predictable Transitions in Task Groups." *Academy of Management Journal* 32 (1989), pp. 274-309.
- 11.27 Thompson, J.D. *Organizations in Action*. New York: McGraw-Hill, 1967; and Van de Ven, A.H.; A.L. Delbecq; and R. Koenig. "Determinants of Coordination Modes within Organizations." *American Sociological Review* 41 (1976), pp. 322-38.
- 11.28 Ibid.
- 11.29 Thompson, *Organizations in Action*.
- 11.30 Ibid.
- 11.31 Ibid.
- 11.32 Van de Ven et al., "Determinants of Coordination Modes."
- 11.33 Kelley, T. *The Art of Innovation*. New York: Doubleday, 2001.
- 11.34 Courtright, S.H.; G.R. Thurgood; G.L. Stewart; and A.J. Pierotti. "Structural Interdependence in Teams: An Integrative Framework and Meta-Analysis." *Journal of Applied Psychology* 100 (2015), pp. 1825-46; and Saavedra, R.; P.C. Earley; and L. Van Dyne. "Complex Interdependence in Task Performing Groups." *Journal of Applied Psychology* 78 (1993), pp. 61-72.
- 11.35 Deutsch, M. *The Resolution of Conflict*. New Haven, CT: Yale University Press, 1973; and Wong, A.; D. Tjosvold; and Yu. Ziyu "Organizational Partnerships in China: Self-Interest, Goal Interdependence, and Opportunism." *Journal of Applied Psychology* 90 (2005), pp. 782-91.
- 11.36 MacMillan, P.S. *The Performance Factor: Unlocking the Secrets of Teamwork*. Nashville, TN: Broadman & Holman, 2001.
- 11.37 Pearsall, M.J., and V. Venkataramani. "Overcoming Asymmetric Goals in Teams: The Interactive Role of Team Learning Orientation and Team Identification." *Journal of Applied Psychology* 100 (2015), pp. 735-48.
- 11.38 Ibid.
- 11.39 MacMillan, P.S. *The Performance Factor: Unlocking the Secrets of Teamwork*. Nashville, TN: Broadman & Holman, 2001.
- 11.40 Mathieu, J.E., and T.L. Rapp. "The Foundation for Successful Team Performance Trajectories: The Roles of Team Charters and Performance Strategies." *Journal of Applied Psychology* 94 (2009), pp. 90-103.
- 11.41 Shea, G.P., and R.A. Guzzo. "Groups as Human Resources." In *Research in Personnel and Human Resources Management*, Vol. 5, ed. K.M. Rowland and G.R. Ferris. Greenwich CT: JAI Press, 1987, pp. 323-56.
- 11.42 De Dreu, C.K.W. "Outcome Interdependence, Task Reflexivity, and Team Effectiveness: Motivated Information Processing Perspective." *Journal of Applied Psychology* 92 (2007), pp. 628-38.
- 11.43 Biddle, B.J. *Role Theory: Expectations, Identities, and Behavior*. New York: Academic Press, 1979; and Katz, D., and R.L. Kahn. *The Social Psychology of Organizations*, 2nd ed. New York: Wiley, 1978.
- 11.44 Humphrey, S.E.; F.P. Morgeson; and M.J. Mannor. "Developing a Theory of the Strategic Core of Teams: A Role Composition Model of Team Performance." *Journal of Applied Psychology* 94 (2009), pp. 48-61.

- 11.45 Brehmer, B., and R. Hagafors. "Use of Experts in Complex Decision Making: A Paradigm for the Study of Staff Work." *Organizational Behavior and Human Decision Processes* 38 (1986), pp. 181-95.
- 11.46 Benne, K., and P. Sheats. "Functional Roles of Group Members." *Journal of Social Issues* 4 (1948), pp. 41-49.
- 11.47 Li, N; H.H. Zhao; S.L. Walter; X.A. Zhang; and J. Yu. "Achieving More with Less: Extra Milers' Behavioral Influences in Teams." *Journal of Applied Psychology* 100 (2015), pp. 1025-39.
- 11.48 Lehmann-Willenbrock, N., and J. A. Allen. "How Fun Are Your Meetings? Investigating the Relationship between Humor Patterns in Team Interactions and Team Performance." *Journal of Applied Psychology* 99 (2014), pp. 1278-87.
- 11.49 Cole, M.S; F. Walter; and H. Bruch. "Affective Mechanisms Linking Dysfunctional Behavior to Performance in Work Teams: A Moderated Mediation Study." *Journal of Applied Psychology* 95 (2008), pp. 945-58.
- 11.50 Spencer, L. "Conditioning Has Become an Important Tool: Let's Get Physical." *Stock Car Racing* (n.d.), http://www.stockcarracing.com/howto/stock_car_pit_crew_conditioning/.
- 11.51 Devine, D.J., and J.L. Philips. "Do Smarter Teams Do Better: A Meta-Analysis of Cognitive Ability and Team Performance." *Small Group Research* 32 (2001), pp. 507-32; and Stewart, G.L. "A Meta-Analytic Review of Relationships between Team Design Features and Team Performance." *Journal of Management* 32 (2006), pp. 29-54.
- 11.52 LePine, J.A.; J.R. Hollenbeck; D.R. Ilgen; and J. Hedlund. "Effects of Individual Differences on the Performance of Hierarchical Decision-Making Teams: Much More than g." *Journal of Applied Psychology* 82 (1997), pp. 803-11.
- 11.53 LePine, J.A. "Team Adaptation and Post-change Performance: Effects of Team Composition in Terms of Members' Cognitive Ability and Personality." *Journal of Applied Psychology* 88 (2003), pp. 27-39; and LePine, J.A. "Adaptation of Teams in Response to Unforeseen Change: Effects of Goal Difficulty and Team Composition in Terms of Cognitive Ability and Goal Orientation." *Journal of Applied Psychology* 90 (2005), pp. 1153-67.
- 11.54 Steiner, I.D. *Group Process and Productivity*. New York: Academic Press, 1972.
- 11.55 Stewart, G.L.; I.S. Fulmer; and M.R. Barwick. "An Exploration of Member Roles as a Multilevel Linking Mechanism for Individual Traits and Team Outcomes." *Personnel Psychology* 58 (2005), pp. 343-65.
- 11.56 Gonzales-Mule, E.; D.S. DeGeest; B.W. McCormick; J.Y. Seong; and K.G. Brown. "Can We Get Some Cooperation Around Here? The Mediating Role of Group Norms on the Relationship between Team Personality and Individual Helping Behaviors." *Journal of Applied Psychology* 99 (2014), pp. 988-99.
- 11.57 Bell, S.T. "Deep Level Composition Variables as Predictors of Team Performance: A Meta-Analysis." *Journal of Applied Psychology* 92 (2007), pp. 395-415; and Peeters, M.A.G.; H.F.J.M. Tuij; C.G. van Rutte; and I.M.M.J. Reymen. "Personality and Team Performance: A Meta-Analysis." *European Journal of Personality* 20 (2006), pp. 377-96.
- 11.58 Ibid.
- 11.59 Comer, D.R. "A Model of Social Loafing in Real Work

- Groups." *Human Relations* 48 (1995), pp. 647-67; and Wagner, J.A., III. "Studies of Individualism-Collectivism: Effects on Cooperation in Groups." *Academy of Management Journal* 38 (1995), pp. 152-72.
- 11.60 LePine, J.A., and L. Van Dyne. "Voice and Cooperative Behavior as Contrasting Forms of Contextual Performance: Evidence of Differential Relationships with Personality Characteristics and Cognitive Ability." *Journal of Applied Psychology* 86 (2001), pp. 326-36.
- 11.61 McGrath, J.E. "The Influence of Positive Interpersonal Relations on Adjustment and Interpersonal Relations in Rifle Teams." *Journal of Abnormal and Social Psychology* 65 (1962), pp. 365-75.
- 11.62 Bell, "Deep Level Composition Variables"; and Peeters et al., "Personality and Team Performance."
- 11.63 Barrick, M.R.; G.L. Stewart; M.J. Neubert; and M.K. Mount. "Relating Member Ability and Personality to Work-Team Processes and Team Effectiveness." *Journal of Applied Psychology* 83 (1998), pp. 377-91; LePine et al., "Effects of Individual Differences"; and Neuman, G.A., and J. Wright. "Team Effectiveness: Beyond Skills and Cognitive Ability." *Journal of Applied Psychology* 84 (1999), pp. 376-89.
- 11.64 LePine, J.A., and L. Van Dyne. "Peer Responses to Low Performers: An Attributional Model of Helping in the Context of Work Groups." *Academy of Management Review* 26 (2001), pp. 67-84.
- 11.65 Bell, "Deep Level Composition Variables"; and Peeters et al., "Personality and Team Performance."
- 11.66 Barrick, M.R., and M.K. Mount. "The Big Five Personality Dimensions and Job Performance: A Meta-Analysis." *Personnel Psychology* 44 (1991), pp. 1-26.
- 11.67 Barrick et al., "Relating Member Ability and Personality."
- 11.68 Barry, B., and G.L. Stewart. "Composition, Process, and Performance in Self-Managed Groups: The Role of Personality." *Journal of Applied Psychology* 82 (1997), pp. 62-78.
- 11.69 Williams, K., and C. O'Reilly. "The Complexity of Diversity: A Review of Forty Years of Research." In *Research in Organizational Behavior*, Vol. 21, ed. B. Staw and R. Sutton. Greenwich, CT: JAI Press, 1998, pp. 77-140.
- 11.70 Harrison, D.A., and K.J. Klein. "What's the Difference? Diversity Constructs as Separation, Variety, or Disparity in Organizations." *Academy of Management Review* 32 (2007), pp. 1199-1228; Mohammed, S., and S. Nadkarni. "Are We All on the Same Temporal Page? The Moderating Effects of Temporal Team Cognition on the Polychronicity Diversity-Team Performance Relationship." *Journal of Applied Psychology* 99 (2014), pp. 404-22; and Roberson, Q.; A.M. Ryan; and B.R. Ragins. "The Evolution and Future of Diversity at Work." *Journal of Applied Psychology* 103 (2017), pp. 483-99.
- 11.71 Joshi, A., and H. Roh. "The Role of Context in Work Team Diversity Research: A Meta-Analytic Review." *Academy of Management Journal* 52 (2009), pp. 599-627.
- 11.72 Aparna, J., and A.P. Knight. "Who Defers to Whom and Why? Dual Pathways Linking Demographic Differences and Dyadic Differences to Team Effectiveness." *Academy of Management*

- Journal* 58 (2015), pp. 59–84; and Kim, E.; D.P. Bhawe; and T.M. Glomb. “Emotion Regulation in Workgroups: The Roles of Demographic Diversity and Relational Work Context.” *Personnel Psychology* 66 (2013), pp. 613–44.
- 11.73** Cox, T.; S. Lobel; and P. McLeod. “Effects of Ethnic Group Cultural Differences on Cooperative and Competitive Behavior on a Group Task.” *Academy of Management Journal* 34 (1991), pp. 827–47; and Mannix, E., and M.A. Neal. “What Differences Make a Difference? The Promise and Reality of Diverse Teams in Organizations.” *Psychological Science in the Public Interest* 6 (2005), pp. 31–55.
- 11.74** Page, S.E. “Making the Difference: Applying the Logic of Diversity.” *Academy of Management Perspectives* 21 (2007), pp. 6–20.
- 11.75** van Knippenberg, D.; C. K.W. DeDreu; and A.C. Homan. “Work Group Diversity and Group Performance: An Integrative Model and Research Agenda.” *Journal of Applied Psychology* 89 (2004), pp. 1008–22.
- 11.76** Ibid.
- 11.77** Kearney, E.; D. Gebert; and S.C. Voelpel. “When and How Diversity Benefits Teams: The Importance of Team Members’ Need for Cognition.” *Academy of Management Journal* 52 (2009), pp. 581–98.
- 11.78** Canella, A.A., Jr.; J.H. Park; and H.U. Lee. “Top Management Team Functional Background Diversity and Firm Performance: Examining the Roles of Team Member Colocation and Environmental Uncertainty.” *Academy of Management Journal* 51 (2008), pp. 768–84; Gruenfeld, D.H.; E.A. Mannix; K.Y. Williams; and M.A. Neale. “Group Composition and Decision Making: How Member Familiarity and Information Distribution Affect Processes and Performance.” *Organizational Behavior and Human Decision Processes* 67 (1996), pp. 1–15; Hoffman, L. “Homogeneity and Member Personality and Its Effect on Group Problem Solving.” *Journal of Abnormal and Social Psychology* 58 (1959), pp. 27–32; Hoffman, L., and N. Maier. “Quality and Acceptance of Problem Solutions by Members of Homogeneous and Heterogeneous Groups.” *Journal of Abnormal and Social Psychology* 62 (1961), pp. 401–7; Nemeth, C.J. “Differential Contributions of Majority and Minority Influence.” *Psychological Review* 93 (1986), pp. 22–32; Stasser, G.; D. Steward; and G. Wittenbaum. “Expert Roles and Information Exchange during Discussion: The Importance of Knowing Who Knows What.” *Journal of Experimental Social Psychology* 57 (1995), pp. 244–65; Triandis, H.; E. Hall; and R. Ewen. “Member Heterogeneity and Dyadic Creativity.” *Human Relations* 18 (1965), pp. 33–55; and Watson, W.; K. Kuman; and I. Michaelsen. “Cultural Diversity’s Impact on Interaction Process and Performance: Comparing Homogeneous and Diverse Task Groups.” *Academy of Management Journal* 36 (1993), pp. 590–602.
- 11.79** Byrne, D. *The Attraction Paradigm*. New York: Academic Press, 1971; and Newcomb, T.M. *The Acquaintance Process*. New York: Holt, Rinehart and Winston, 1961.
- 11.80** Byrne, D.; G. Clore; and P. Worchel. “The Effect of Economic Similarity-Dissimilarity as Determinants of Attraction.” *Journal of Personality and Social Psychology* 4 (1996), pp. 220–24; Lincoln, J., and J. Miller.

- “Work and Friendship Ties in Organizations: A Comparative Analysis of Relational Networks.” *Administrative Science Quarterly* 24 (1979), pp. 181–99; Triandis, H. “Cognitive Similarity and Interpersonal Communication in Industry.” *Journal of Applied Psychology* 43 (1959), pp. 321–26; and Triandis, H. “Cognitive Similarity and Communication in a Dyad.” *Human Relations* 13 (1960), pp. 279–87.
- 11.81** Jackson, S.E.; K.E. May; and K. Whitney. “Understanding the Dynamics of Diversity in Decision-Making Teams.” In *Team Decision-Making Effectiveness in Organizations*, ed. R.A. Guzzo and E. Salas. San Francisco: Jossey-Bass, 1995, pp. 204–61; and Milliken, F.J., and L.L. Martins. “Searching for Common Threads: Understanding the Multiple Effects of Diversity in Organizational Groups.” *Academy of Management Review* 21 (1996), pp. 402–33.
- 11.82** Harrison, D.A.; K.H. Price; and M.P. Bell. “Beyond Relational Demography: Time and the Effects of Surface-and Deep-Level Diversity on Work Group Cohesion.” *Academy of Management Journal* 41 (1998), pp. 96–107; and Harrison, D.A.; K.H. Price; J.H. Gavin; and A.T. Florey. “Time, Teams, and Task Performance: Changing Effects of Surface- and Deep-Level Diversity on Group Functioning.” *Academy of Management Journal* 45 (2002), pp. 1029–45.
- 11.83** Ibid.
- 11.84** Lau, D., and J.K. Murnighan. “Demographic Diversity and Faultlines: The Compositional Dynamics of Organizational Groups.” *Academy of Management Review* 23 (1998), pp. 325–40; and Lau, D., and J.K. Murnighan. “Interactions with Groups and Subgroups: The Effects of Demographic Faultlines.” *Academy of Management Journal* 48 (2005), pp. 645–59.
- 11.85** Tuggle, C.S.; J. Schnatterly; and R.A. Johnson. “Attention Patterns in the Boardroom: How Board Composition and Process Affect Discussion of Entrepreneurial Issues.” *Academy of Management Journal* 53 (2010), pp. 550–71.
- 11.86** Carton, A.M., and J.N. Cummings. “The Impact of Subgroup Type and Subgroup Configurational Properties on Work Team Performance.” *Journal of Applied Psychology* 98 (2013), pp. 732–58; and Homan, A.C.; D. van Knippenberg; G.A. Van Kleef; and C.K. W. De Dreu. “Bridging Faultlines by Valuing Diversity: Diversity Beliefs, Information Elaboration, and Performance in Diverse Work Groups.” *Journal of Applied Psychology* 92 (2007), pp. 1189–99.
- 11.87** Homan, A.C.; J.R. Hollenbeck; S.E. Humphrey; D. van Knippenberg; D.R. Ilgen; and G.A. van Kleef. “Facing Differences with an Open Mind: Openness to Experience, Salience of Intragroup Differences, and Performance of Diverse Work Groups.” *Academy of Management Journal* 51 (2008), pp. 1204–22; and Kearney, E., and D. Gebert. “Managing Diversity and Enhancing Team Outcomes: The Promise of Transformational Leadership.” *Journal of Applied Psychology* 94 (2009), pp. 77–89.
- 11.88** Ibid.
- 11.89** Ibid.
- 11.90** Mohammed, S., and S. Nadkarni. “Temporal Diversity and Team Performance: The Moderating Role of Team Temporal Leadership.” *Academy of Management Journal* 54 (2011), pp. 489–508.